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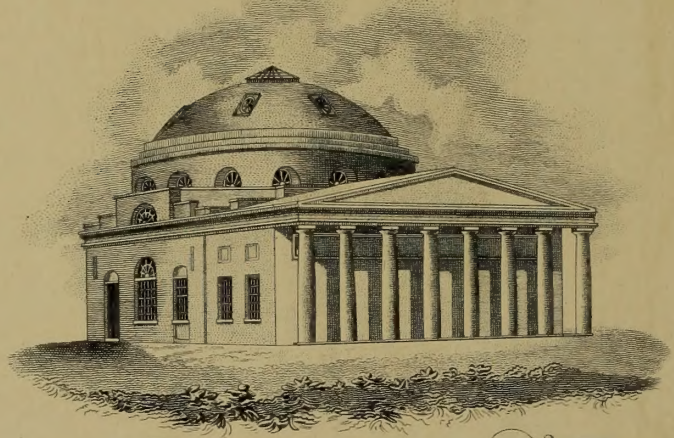

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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UNIVERSITY OF MARYLAND

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1883 (a)

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[1] Includes list of references at end of thesis.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1851-1892; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

Author	Title	Notes
Marriott, Henry B.	Materia Medica, Physiological Action, and Therapeutic Uses of Ergot	
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UNIVERSITY OF MARYLAND

THESES

1883 (a)

Nelson, ~~G.~~ George F.	The Rational Treatment of Gonorrhoea	10p.
Highberger, ~~Wm.~~ William T.	Scarlatina	27p.
Battaile, ~~G.~~ George S.	Typhoid Fever [1]	33p.
~~Wimberley~~ Wimberley, ~~G.~~ George L. Jr.	Physiological and Therapeutical Actions of Digitalis [2]	20p.
Macon, ~~P.~~ Philemon J.	Epidemics	35p.
Withers, H. D.	Fractures of the Lower Extremity	28p.
McStevenson, J.	Pneumonia	12p.
Tussey, A. Edgar	Alcohol	30p.
Rolando, Henry	Bacteria and Heterogenesis	22p.
Pinder, W. Dorsey	Anaesthetics	21p.
Muncaster, ~~M.~~ Magruder	Digestion	26p.
Nelson, ~~Wm.~~ William Joseph	The Kidney and Its Functions [3]	26p.
Marriott, ~~H.~~ Henry B.	Materia Medica, Physiological Action, and Therapeutic Uses of Ergot	21p.
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Newman, J. F.	Acute and Chronic Nephritis [4]	24p.
Pearson, ~~C.~~ Charles L.	Scarlatina	26p.
Jones, ~~Wm.~~ William J.	Etiology of Locomotor Ataxia	16p.
Harris, ~~J.~~ James C.	Strabismus	16p.

1 Noteworthy title calligraphy
2 Calligraphy on pages 1, 2, and 9
3 Noteworthy title calligraphy (continues throughout thesis)
4 Noteworthy title calligraphy

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The above remedies combat the pain, disquietude, ardor urinae, bladder complications, chordea &c. They are to be used until nothing remains but the discharge. When severe strangury is present, the following is excellent.

℞. Hydrat. Chlorid. 3ss
Tr. Lupulin. 3ii
Aquae (warm) Oi

M. ft. Enema. S. To be used once a day.

For the remaining discharge

℞

Zincii Sulpho-Carbol. gr. vi
Ext. Opii Aquos. ʒi
Ext. Hydrast. Canaden. ʒi
Ext. Matico fl. ae ʒi
Glycerinae ℥i
Aquae q.s. ad ℥iv

M. ft. Injectio. S. Use 4 times a day after micturition or instead

℞

Zincii Sulpho-Carbol. gr. vi
Ext. Opii Aquos. ʒi
Bismuth. Subnitr. ʒiss
Butyr. Cacoa. ʒvi

M. ft. Bougies No. xii. S. Introduce one with vaseline into urethra twice a day.

These bougies are very readily made without heat, by rubbing the butter in a mortar with the aid of a small quantity of sweet almond oil, and incorporating the other ingredients thoroughly with it. The mass is then rolled out on a tile in the same manner as a pill mass; divided into the required number, and each portion again rolled into the shape of a bougie, 4½ inches long, the point being made conical with the fingers.

Should slight discharge persist

Geo. F. Nelson

Feb. 15/83

Thesis

on

Scarlatina

by

Wm. T. Highberger

21st February 1883.

Gentlemen,

It is with pleasure that I submit for your consideration and examination a "Thesis" on Scarlet Fever which as Dr. Wilson says "should always be considered dangerous even in its mildest form" on account of the complications and sequelae which arise during its course and termination.

Definition.—It is an acute infectious disease, self limited, characterized, mainly by a general punctiform eruption, usually appearing on the second day, and by inflammation of the

fauces, tonsils and kidneys and termination of the epidemic.

History.— Down to the sixteenth or seventeenth century scarlet-fever was confounded with measles, but they are now recognized as two distinct diseases. although it may have been limited to certain areas at one time, it is now general throughout the world.

It generally breaks out into epidemics, and its prevalence seems independent of climate or season, but it is largely promoted by overcrowding and dirt.

children suffer from it in much larger degree than adults although it may occur at any age. It rarely occurs but once in the same person, although it may occur the second time.

The terms scarlet-fever, scarlet-rash and scarlatina are identical. They are employed to designate one of the most frequent and fatal of the contagious diseases.

There is no disease which presents a greater difference, as regards character and severity of symptoms than scarlet-fever, and this has led to the recogni-

tion of the three forms viz:
Simple, Anginose and Malignant.

Causes. — Scarlet fever like other infectious diseases is propagated by a peculiar poison which, by reason of the tenacity with which it adheres to articles of clothing, and other peculiarities, we have good grounds for holding is a solid.

It is communicated by contact of the healthy with the infected, and by intermediation of various substances to which the poison adheres.

It occurs both in the sporadic and epidemic forms but never

arise spontaneously.

The susceptibility to scarlatina is not by any means universal. The time which elapses from exposure until the objective signs of the disease are manifest varies greatly. The shortest period mentioned is that of a patient in whom the disease appeared in a day after exposure, and the other extreme is twelve to fourteen days.

It may be conveyed on or about the person of the healthy to others at a distance. That it may be dissolved in articles of food or drink is rendered highly probable by the epidemics following in the

make of milk distribution.

The poison is probably contained in the skin and its excretions and epithelium, and also in the breath and exhalations of the throat.

The period of greatest activity of the poison is at the highest point in the disease, but it is contagious at any period of the disease.

The susceptibility to it is increased by all causes lowering the vital forces and the susceptibility varies greatly even in members of the same family; hence, nothing is more common than for one member to be attacked, while all the rest escape it.

Symptoms and course. — After an incubation usually of about five days from exposure, the chief symptoms, lassitude, anorexia, headache, pain in the back and limbs mark the beginning of the attack. Soon these are followed by high fever; on the first day or often the throat is sore.

On the second day usually a punctated red eruption appears on the face and neck and in ten or twelve hours has covered the whole body. It is of a scarlet or sometimes a brick-red hue, uniformly diffused with a swollen appearance and great heat of the skin.

occasionally, miliary vesicles are seen. There is also a sense of burning and some soreness or irritation of the skin.

The tongue is coated and has a strawberry like look - from the projections of enlarged papillae through the whitish fur.

The throat is very red and generally swollen, with a line not unlike that of the skin.

The fever runs very high, the temperature 102°-103° to 105°(F), with an extremely rapid pulse 120 to 140 or even higher, great thirst - headache, perhaps delerium, costiveness and in some cases vomiting.

Bad cases may have stupor. By the fifth day mild examples of the disease show already an abatement. Most have passed the height of the pyrexia by the ninth; although the sequelae may protract the attack much longer.

Malignant cases may be fatal in a day or two, or even in less than twenty-four hours.

Desquamation of the skin follows the fading of the eruption, often large masses of the cuticle coming away at once.

At this stage more or less decided albuminuria is common.

Scarlatina simplex. — In this the eruption comes out early and well, with moderate fever, little or moderate inflamation of the throat and even course throughout. Sometimes there is hardly any febrile disturbance; the child may even play about without having to go to bed.

Scarlatina Anginosa. — Here the violence of the disease falls upon the throat chiefly.

The tonsils swell greatly, suppurating either early or late, or they are covered by a pseudo-membranous deposit, white, gray or dark brown, whose coming

away leaves an ulcerous surface with, in some instances an acrid offensive discharge.

The extension of the ulcerative inflammation may case up the Eustachian tube to the Tympanum may destroy the auditory apparatus so as to cause permanent deafness.

After the rash has disappeared, abscesses in the neck may form and discharge, exhausting the patient.

Scarlatina Maligna.—This term designates an overwhelming toxaemic impression of the morbid cause of the disease.

Depression in the first stage becomes intense without reaction; or after the eruption has partly come out, it recedes or grows livid in appearance; or the brain is oppressed with coma.

Coldness is sometimes present or unequal temperature of different parts of the body, instead of the usually diffused febrile heat.

The throat may be much or little affected. In some instances the patient seems almost as if struck by lightning, so sudden and deep is the general prostration. In this condition death may take place in a few hours.

Otherwise there is continued prostration, and hemorrhage from stomach, or bowels or vomiting or diarrhoea threatens an untowardend.

Anatomical Character.

In many cases the Brain, its membranes, and the lungs are congested. Often also the Peyerian, solitary and mesentric glands are enlarged, and the Spleen is enlarged and softened.

In malignant cases in which the cardiac systole is feeble in the last hours of life, antimortem coagulation of fibrin frequently occurs in the cavities of the heart - obstructing the circulation

and being the immediate cause of death. These clots are large and whitish - yellowish-white

Sequelae. — They are various. The one which occurs most frequently is albuminuria with general dropsy. The time of its occurrence is ten to twenty days after the date of the desquamation. Dropsy generally leaves organic degeneration of the kidneys, suspect it when there is frequent pulse and hot skin. Paralysis is also some diarrhoea swelling of maxillary glands and ophthalmia. Pleuritis, pericarditis, and acute articular rheumatism are

occasional sequelæ as well as concomitants of scarlet-fever.

Chorea is also to be reckoned among the occasional sequelæ.

External otitis is not uncommon. A purulent discharge takes place from the ear and sometimes there is considerable deafness. If the inflammation be wholly without the tympanum, the deafness will be temporary and under judicious management the affection may generally be removed. It is apt to return from time to time for a considerable period after recovery.

Diagnosis.— In the commencement of scarlet-fever prior to the eruption there are no symptoms or appearances, which will enable us to make a positive diagnosis. Still a child with regular bowels, and no appreciable local disease, a few days after exposure to scarlet fever, is suddenly seized with intense fever, the pulse rising to 120 or more, and the temperature to 102° to 103° or 105°, there is little doubt that the disease is scarlet-fever. The diagnosis is rendered more certain if

there is vomiting and especially if there is as usual redness of the fauces at this early period. After the eruption has appeared the nature of the malady is in most cases apparent.

Still roseola or erythema due to intestinal derangement or other causes has often been mistaken for scarlet-fever. A day or two suffices to show the error.

In scarlet-fever there is more inflamation of the faucial and buccal surface, more continuous and persistant redness of the skin and greater intensity

and persistence of symptoms.

It is also further distinguished from them by the papular elevations upon the tongue and in scarlet-fever from the first- there is the appearance of a serious sickness, while in roseola and erythema this is not present.

From measles it is known by the eruption coming out on the second day, without catarrhal symptoms, but with sore throat and by its being of a brighter red color, and uniformly diffused instead of being in patches.

Generally in learning the clinical history from day to day the diagnosis is established.

Prognosis — This is proverbially uncertain in scarlet-fever. The simple form is however less dangerous and a very large majority of cases do well.

The anginose is more threatening and serious but the malignant variety is far more so; recovery from it being the exception although they sometimes recover.

adults are when affected in somewhat greater danger than

children and, so especially are puerperal women.

As dangerous complications and sequelae are liable to occur suddenly and unexpectedly in mild as well as severe cases, it is unwise to make an unconditional prognosis till the patient is well advanced in convalescence.

Safety is not insured till two or three weeks after the eruption.

If diphtheritic deposit occurs after scarlet-fever it is almost fatal.

Treatment.—

Whenever it breaks out among a number of susceptible persons the sick should at once be separated from the sound.

The patient should be put in a suitable room, at the top of the house if possible and if possible should have a floor to himself.

A well ventilated room, protected from cold and draughts with temperature from 68° to 70° (F).

All the necessary means should be taken as regards nursing, ventilation, disinfection

cleanliness and removal of
surplus furniture.

The patient should be kept
strictly in bed, with only so much
covering as is absolutely necessary.

The diet should consist of
milk, beef tea, sago and such
other articles and for medicines
acetate of Ammonia or nitrate or
chlorate Potash in solution may
be serviceable.

Ice is often useful to allay
vomiting.

To relieve the soreness of
the throat - ice, or the inhalation
of steam or warm milk slowly
swallowed or astringent -or-

antiseptic gargle may be employed.

To allay the itching sponge the body with vinegar and water or cold cream and glycerine. If the bowels are much constipated they should be relieved by mild laxatives; if there is diarrhoea they should be restrained by opium or other astringents.

When convalescence is taking place it is good to keep the body well greased in order to prevent the dissemination of the flakes of cuticle.

Tonics must now be had

recourse to, and the diet should be nutritious and include a fair proportion of solid food.

It is during this period that the dangers of Emaciation and Dropsy are the greatest.

It is important therefore that the patient should be kept warm, that he should not be exposed to draughts, that he should keep his room, either confined to bed or encased in flannel: and that the excretory functions should be carefully attended to until the period of desquamation has come to an end.

In most cases stimulants are not needed but in malignant cases and all cases where the muscular debility is great and there is a tendency to collapse or to coming on of the typhoid symptoms they are imperatively demanded.

In the worst cases of the disease all treatment is futile: and in milder cases the care of the physician must be directed not so much to the cure of the disease as to relieving of discomforts and to obviation by precautionary measures, of complications and sequelae.

If there be nasal catarrh

with discharge it is well to syringe out the nostrils with warm water or water containing Chlorate Potash, nitrate silver or some antiseptic.

If the throat be ulcerated or gangrenous, solution of perchloride of Iron, or of Nitrate of Silver or of hydrochloric or Nitric acid, may according to circumstances be used.

Warm fomentations or poultices should be employed externally; and if there be suppuration in the glands or connective tissue behind & below the jaw a puncture or incision should be made.

Chlorosis, Rheumatism and

renal dropsy and uraemic convulsions must be treated as these affections are treated when they arise under other circumstances and so with regard to other complications. Only it must not be forgotten that these affections occurring as complications bear depletion less and stimulation more than do same affections when they are of spontaneous or idiopathic origin.

There is no prophylactic treatment that is any good in scarlet-fever. Belladonna is said to be one, but the evidence so far is against its use in this way.

TYPHOID FEVER

BY

C. S. BATTAILE. Va.

1883.

Gentlemen.

According to the statutes which require every candidate for the degree of Doctor of Medicine must deposit with the Dean a Thesis of his own composition, & I hereby comply by presenting for your examination a brief consideration of

Typhoid Fever.

It is an acute febrile affection, self limited characterized by rose spots chiefly on the ab-

domen + a tendency to diarrhoea.
It is held by some to be contagious, by others feebly, if so at all.
It is known by several names, enteric, originally proposed by the late Prof. George B. Wood, + on the Continent of Europe as abdominal typhus.
Causes.
This disease owes its origin to a peculiar poison, the nature + source of which are not yet known positively.
There is a germ which

does not originate in privies, sewers, sinks & cesspools, but finds in those places a soil suited for its growth & development.

The poison is contained in the faeces of the patient, but it seems necessary for some change to take place in these, for the sufficient development of the activity of the poison, because just after the evacuation of the bowel, they do not make any apparent manifestations of activity.

when the faeces are thrown out, then this activity of the disease germs takes place if there were present in a few germs now there is enough to cause an epidemic.

They are taken into the system in water, articles of diet, air & various other ways. That the germs do not infect more people than they do, is probably due to the insusceptibility of the person with whom it comes in contact.

It is more prevalent

in the autumn & winter.

Typhoid attacks young persons from 15 to 30 years of age & preferably the robust healthy, more than weak delicate females, & generally passes by those suffering from chronic diseases.

Pathological Anatomy.

The inflammatory process attacks the spleen, mesentery & agminated glands or as they are commonly called Peyers patches.

The spleen becomes soft

much hypertrophied,
sometimes reaching three
or four times its normal
size, the tissues become
extremely vascular & the
lymphatics supplying it
increase in number. There
is a slight temporary
increase in the number
of white blood corpuscles.
As the disease abates,
new changes take place
which restore the organ to
its natural size.

The patches of Peyer are
chiefly affected & it is
the secretion of their

inflammation that makes the disease so dangerous.

During the 1st week there are hyperæmia + swelling of the mucous membrane of the ileum in the neighborhood of the ileo-cæcal valve, + especially the agminated glands, the solitary glands become swollen + by the end of the 1st week the infiltration has become general. At the beginning of the 2nd week the patches of Peyer are thoroughly infiltrated, + near the ileo-cæcal

valve They cohere and unite sometimes forming a complete circle around the valve.
The solitary glands vary in size from ⅛ of an inch to that of a pea or bean.
The patches coalesce at the extremity of their long axes, parallel of course to the long axis of the intestine + thus become extremely lengthy.
All of the patches may not be affected sometimes only three or four.
The glands are soft + spongy in close nets,

& when they reach that
stage a necrotic soften-
ing & sloughing follow
very soon. The necrosis
however, is produced only
in the more advanced &
pronounced cases, they are
usually greenish in color,
when stained by bile pig-
ment, or brownish by intes-
tinal juice. Sloughing
takes place during the sec-
ond week, which leaves
an excavation down to
the muscular & sometimes
through the entire part.
producing death generally.

The ulcers have the shape of the patches & are elliptical, with their margins thick & well marked. Ulceration may not occur for a month or two after the patient is out of the room & for that reason we should be on the alert when we give our prognosis. Healing of the ulcer is carried on by granulation, a gradual contraction takes place until the edges are in apposition & a cicatrix marks

the site of the former ulcers.

The liver becomes soft, loses its firmness, caused by the presence of fat granules. It presents a grayish or yellowish red appearance.

In the kidneys the epithelial portions of the tubes cortex + pyramids become granular, cloudy + last by breaks down into granular fragments, albuminuria follows when these changes are well

pronounced.
In the cardiac muscles the striations disappear while the granules appear in larger numbers. It becomes soft & flabby, with waxy & fatty degenerations.
Anaemia & oedema of the brain, with an effusion into the sub-arachnoid & perivascular lymph spaces, sometimes the ventricles also contain a small amount of fluid.

Symptoms,

The prodromic period is generally well marked. For a week or ten days there is a lack of vigor & the patient gets very tired on the least exertions. There is headache, tinnitus aurium, epistaxis, no appetite & usually a slight diarrhoea. Some chilliness is now felt at different times for some days. then fever sets in & the patient is

compelled to go to bed. In malarial regions, an attack of what appears to be intermittent fever may precede the fever proper. There is nausea, tongue heavily coated & sometimes an acute gastric catarrh. Lassitude of mind, great weakness & disturbed sleep are experienced. Occasionally the fever is ushered in without any prodromes. A perfectly robust person may be

suddenly attacked with chilliness, lumbar pain, fever + on the following day a well marked case of typhoid fever presents itself, Photophobia, inability to stand in the erect posture, Trembling + vertigo, are next made manifest,
a poor appetite, bad taste in the mouth, great repugnance for food + an insatiable thirst, The tongue is dentated at the margin, increases in

size, which causes the denudations, but it soon gets smaller & the epithelium comes off in flakes, leaving a very red surface.

There is a tendency to constipation very often during the first week, & it is sometimes necessary to relieve it by purgatives. At first the faeces are thin, having a very disagreeable odor, but they soon increase in frequency & towards the end of the

Second week present a yellow ochre color & they are very much like "pea soup".
Tenderness in the right ileo-caecal region with gurgling, a tympanitic distention of the abdomen, dullness in the region of the splenic comma.

The nervous disorders are apparent about the beginning of the second week. The patient becomes somnolent, is readily a- roused but is very rest-

less at night. About the tenth day mental disturbances are noticed; when aroused, or toward evening or anytime during perfect quietude about him he may commence talking in a low tone, whence the name "low, muttering delirium;" at times the patient gets so violent that it becomes necessary to tie him in bed. This condition of affairs, together with a quick pulse high temperature indi-

cate extreme illness.
These cases are, however,
rare. The delirium is
a low monotone, accom-
panied with subsultus
tendinum.
The urine contains
very frequently leucin
& tyrosin & in many cases
albumen.
At the end of the first
week the rose spots
make their appearance.
They are small & lenticu-
lar & quickly reappearing
after pressure has remov-
ed, Then for a moment. They

are sometimes absent, in other cases several hundred may be counted. At the beginning of the third week the symptoms intensify, stupor increases, faeces & urine are passed involuntarily, patient lies on his back with open mouth, a great accumulation of sordes, a stupid countenance. The pulse is quicker, from 90 to 120 or more, but it decreases in force, is compressible, low tension, dicrotism, double beat, then called

dicrotic. During the first week it gradually ascends, with a morning remission & an evening Exacerbation, each exacerbation increasing until the maximum is attained. The fever is continuous during the second ; during the third week it is remittent & during the fourth intermittent. Exacerbations decrease daily until the normal is reached.

The unfavorable complications generally during

the third week make their appearance, & recovery takes place during the fourth week. slowly but surely if no complications arise.

Prognosis.

We should be very careful in giving a prognosis. One should always remember the serious complications likely to arise during the course of the disease & even after the patient is walking about out of doors, he is not

necessarily cured, because perforation of the bowel may occur & produce death without any warning. The higher the temperature the less favorable is the termination & vice versa. Liebermeister says that when the temperature is under 104° Fahr. 9.6. if over 104°, 29.1. & if over 105.8°, one half of the patients die.

Typhoid fever when properly treated & the patient well nursed, is not such

a fatal disease; When
internal hemorrhage
has taken place, the prog-
nosis should be very guard-
ed. This may take place
at any time during the
disease, the quantity of
blood lost varying. Of
course, in different cases,
if hydrotherapy be
properly applied, the
tendency to hemorrhage
is less & the more favor-
able is the prognosis.

Treatment.

Of all the drugs found
in the store of a first

class druggist no specific for typhoid fever can be found. There is a treatment which originated in Germany, consisting of mercury & iodine, known as the specific treatment, Large doses of calomel during the first week modify it to a certain extent. One dose of ten grains on alternate days is the way in which it is prescribed. If the temperature be high, it may be given every day, but salivation may occur.

It is most useful in the forming stage of the disease, in purgative doses + is contraindicated in all cases which tend to assume an ataxic or an adynamic type. It is to be placed in the same category as the salines which are very useful in the first period of the disease. It is very probable that it assists in removing the poisonous material from the bowel + possibly tends to neutralize it if it be a ferment + while it

is imperfectly soluble may serve as a protection to the mucous of the small intestine.

Iodine is given in the form of Lugol's solution, three to five minims in dilute continued for the first two weeks. According to Liebermeister the mortality was greatly lessened when the mercury + iodine treatment was used.

Turpentine is used to prevent intestinal complications.

as antipyretic agents
hydrotherapy, digitalis
& quinin are most useful.
Hydrotherapy consists
in either hot or cold spong-
ing, immersion & cold
packs. The most prefera-
ble manner is immer-
sion, with the temperature
of the water at 98° gradu-
ally reduced to 60. &
the patient should not
be allowed to remain in the
bath longer than fifteen
minutes. When the bath
is not convenient then wet
packs, sponging or wet

sheets may be wrapped about the patient.
Hydrotherapy is contra-indicated when there is hemorrhage from the intestines, great weakness of the heart's action + when the surface is cold with great internal heat.
Next to this method comes Quinine. It should be given in very large doses Fj - Fij. One scruple every 4 hours is a good rule to adopt. When this does not reduce it, it should be combined with digitalis.

of course digitalis can not be given when there is irritability of the stomach accompanied with weakness of heart action.

If the temperature is kept in proper limits there is to be very little fear of complications. A weak heart requires brandy or good whiskey but these agents should not be given except to those patients who are accustomed to take a drink every day

Rest lessness is best treated

ed with opium sedum
the skin is dry combin-
it with ipecac. Chloral
should not be given on
account of its depressing
effect on the cardiac
muscles.

If the diarrhoea is great
Fowler's solution + laud-
anum, bismuth + carbolic
acid.

Hemorrhage is to be con-
trolled by opium, which
suspends intestinal move-
ments, ergotin injected
under the skin.

Tannin, alum + cal-

ution of chloride of iron internally, with ice bladders over the abdomen. Opium is the remedy when perforation occurs.

Bed sores may be prevented by alcohol & sugar of lead extract applied locally. Copaiba & castor oil in equal parts after the sore has made its appearance. Poultices are useful also.

One of the chief things to be attended to in the treatment is the diet.

It should consist of milk, in moderate quantities & repeated at suitable intervals. Beef tea, chicken broth may be given alternately with the milk.

When the adynamia is at its maximum, egg nogg is excellent when properly made & administered at regular intervals.

The excreta of the patient should be disinfected by a strong solution of sulphate of iron or chloride of zinc.

perfect quietude, plenty
of fresh air.
Only one person should
be allowed in the room
at the same time.
The remedies mentioned
properly given by an
intelligent nurse + pre-
scribed by a sensible
physician are apt to
cure most cases of
Typhoid Fever

Physiological & Therapeutical
Actions
of
Digitalis.
By
Geo. L. Wimberly, Jr.

Digitalis.

Physiological & Therapeutic Action.

Physiological Action.- To the therapeutist, it is chiefly upon the circulatory system, that the interest in the physiological action of digitalis centres. It is also worthy of note, that this drug exerts a direct influence upon the apparatus of voluntary motion. That the muscular tissues are affected has been sufficiently proven by the researches of various investigators, all of whom have found that the muscles of animals poisoned

with digitalis respond more feebly than is normal to galvanic current. The nervous tissue has been found to respond much more readily to the action of digitalis, than the muscular, the functional power of the nerves becoming much more rapidly and completely impaired than the muscles.

Circulation — As to the influence exerted by digitalis upon the circulatory system, the statements of the various investigators agree in all essential points.

A marked diminution in the

number of cardiac beats, per minute, is the first distinctive action of the drug, which is due to a prolongation of the diastole. During the systole the ventricles become pallid, the last drop of blood being squeezed from their walls, by their energetic contraction. As the drug increases in its activity, the rythm of the heart becomes very much affected, the auricle and ventricle no longer beating in accord; at the same time the diastole is imperfect, one portion of the ventricle remaining in a state of tonic contraction,

while the rest dilates. Finally the circulation is arrested, with the heart in a state of systole, and the muscles so contracted and hardened, that they no longer respond to electrical or other excitants.

It is evident, from various experiments, that digitalis acts directly upon the heart-muscle itself, as similar phenomena, as the above, will result, even after division of the vagi and destruction of the spinal cord, and which is further corroborated by the local application of the drug, in which case it acts

at once upon the heart. The inhibitory activity of the drug up on the peripheral ends of the Pneumogastrics is, on the other hand, undoubtedly. It is evident, therefore, that the stimulant action of digitalis is also directed to the peripheral cardiac inhibitory apparatus.

From elaborate experiments upon warm-blooded animals, it has been found that the administration of moderate doses of digitalis has the effect of producing increased arterial pressure, with a diminution in the number of cardiac pulsations. When toxic doses were

used, these phenomena were followed by increased frequency of pulse, with lowering of arterial pressure. It has been shown that, after division of the vagi, digitalis is incapable of reducing the pulse-beat, and that when the pulse has been diminished in frequency by the drug, section of the nerves has the effect of producing a very marked rise in the pulsation. It would thus seem conclusive, that the action of digitalis in reducing the pulse-beat, is directly or indirectly owing to an excitation of the peripheral inhibitory apparatus.

Although the immediate energy of the heart may be much augmented by the action of digitalis, yet it seems scarcely possible that the permanent rise of arterial pressure can be due to this action. Various writers have formerly, that the contraction of the arteries, inasmuch as they have simultaneously, must be the source of the increased arterial pressure, inasmuch as they have simultaneously, must be the source of the increased arterial pressure, inasmuch as they have simultaneously, must be the source of the increased arterial pressure

We must, therefore, inevitably conclude that digitalis, in moderate doses, stimulates the muscule-motor portion of the heart, increases the activity of the inhibitory apparatus, and causes contraction of the arterioles by an action on the vaso-motor centers in the cord.

Decided therapeutic doses of digitalis produce great reduction of the pulse, and increase the size and force of the wave; at the same time arterial tension is augmented. Poisonous doses induce, after a time, symptoms just contrary to those produced by medicinal doses.

It is certain that toxic doses of

digitalis lower the temperature a number of degrees in healthy persons, the temperature being probably influenced by the condition of the circulation, instead of any direct antipyretic action.

Therapeutic Action.- The chief clinical use of digitalis is its employment in various heart affections, which are characterized by a diminution in its force.

The conditions calling for this drug are, where the systoles become rapid and imperfect and the ventricles neither filling nor emptying themselves completely, increase the embarrassment; under these

circumstances, digitalis, by lengthening the diastolic pause and increasing the systolic contraction, causes the ventricles to completely fill themselves in the one way to empty themselves in the other act, thus increasing arterial tension all over the body and causing the symptoms to disappear, which are due to low arterial pressure.

In simple dilatation of the ventricle in the muscular walls of the heart, without valvular lesion, the action of digitalis is very marked. On the other hand, in simple hypertrophy,

digitalis is deleterious and should never be employed.
In mitral insufficiency and in mitral stenosis digitalis is often of the utmost value. It tends to lessen pulmonary hyperaemia, which results from both the above affections.
In case of stenosis, the diastole is lengthened by the drug, thus giving the muscle more time to empty its contents into the ventricle thro' the stenosed orifice, and at the same time is strengthened in its contracting power; evidently the ventricle will have more to con-

tract upon and its contracting power being increased we will have an increased amount of blood forced into the systemic circulation.

In Mitral insufficiency the mechanism is somewhat different, but the result is the same. The aortic orifice is much larger than the obstructed mitral, and the systole being increased in power will throw proportionately more blood thro' the aortic orifice than thro' the partially open valve. Hence the larger orifice constantly gains on the smaller, with the increase

an cardiac force and more blood [illegible] into the systemic circulation, thus relieving the pulmonary. Again, the right ventricle shares in the stimulant action of the drug and acting more strongly upon the pulmonary circulation, resists the backward flow from the auricle.

In aortic constriction digitalis is beneficial when the heart-force begins to fail. In these cases, if compensatory hypertrophy intervenes, digitalis does harm and should not be used. In both aortic stenosis and incompetency, with

diminishing heart force, and where the hypertrophy is not compensatory, digitalis gives great relief.

It is more important to the therapeutist to recognize the force of the heart, in proportion to its requirements, than to know what valve is affected.

In cardiac affections, if not to long duration, the effects of digitalis are in a measure permanent, as the drug may aid in producing compensatory hypertrophy.

Improved systemic circulation means, in a great degree, im-

provement in the condition of the cardiac muscle, which receive an increased amt. of blood and nutrition, in proportion as the heart is increased in force, thus giving greater tone and more forcible contractility to the heart.

In aneurisms and capillary atheroma digitalis may often be of great use, though it must be employed with caution, as the increased blood pressure may produce rupture of an atheromatous cerebral capillary or tear open the thinned wall of an aortic aneurism.

In cardiac dropsy digitalis is of great service, not only by acting on the heart, and evacuating the excessive amt. of fluid thro' the kidneys, but also by its action on the vessels, thro' the vaso-motor centers.

This drug is often of great value in various acute diseases, such as adynamic pneumonia and fevers, by maintaining the heart's action. It has no controlling influence over the disease itself, but helps most effectually to sustain the heart during a period of crisis. The antipyretic proper-

ties of digitalis are admitted by some, though considerable doubt exists as to any such action. Some also assert that it possesses a contracting influence over unstriped muscular fibers, exerting powerful influence over uterine hemorrhage, yet we have no definite knowledge upon the subject. It is regarded by some as a true anaphrodisiac, being capable of annulling the activity of the sexual organs, whence its administration in spermatorrhoea.

Diuretic — no doubt can exist as to the direct diuretic action of digitalis. It is a purely hydragogue diuretic, simply increasing the watery elements of the urine, without any alterative effect whatever, either upon the nature of the secretion or upon the mucous membrane of the kidneys. Its diuretic action is not simply a result of its action on the circulation, as it will sometimes appear before the circulation is notably affected; though it is evident that in

disease, the action of digitalis on the kidneys is due, in a large measure, to its action on the heart. Thus, in dropsy from a dilatey heart the renal function can not be properly performed, as the kidneys are not supplied with the proper kind and quantity of blood, because the circulation is nearly stagnant. If under these conditions digitalis be employed, its diuretic action will be most marked. From clinical observations it is evident that digitalis

is very useful in both cardiac and renal dropsy. It should be tried in the various forms of Bright's disease, as it often acts most beneficially. Administration — Digitalis may be given in substance in the form of pills; dose gr. j t. d. and increased until some effect is produced. Infusum Digitalis (℥j to Oss) — dose, f℥j — f℥ss —; and Tinctura Digitalis (℥ij to Oj) — dose, gtt V — gtt XX — are the most desirable preparations of this drug, & those most employed.

University of Maryland
Session of 82 & 83

Thesis - "Epidemics"
By
Philemon J. Macon
N.C.

Epidemics

By Epidemics, we mean diseases of general and prevailing influence, extending over wide districts at the same time, and observing great similarity in their attacks on individuals.

In every age much attention has been paid to their causes. By the Ancients they were referred to the vengeance of their peculiar divinities, Sacrifices and native offerings were made, to appease their wrath, or propitiate their favour. But a sounder Pathology and more accurate observation, has since shown that Epidemics, are ow-

ing to a single, or combination of Physical Causes; Among these, the condition of the Atmosphere, is not the efficient. Most cases can be traced to the causes assigned: But there are others, of occasional occurrence, which sweep in rapid succession over the face of the Globe, not depending on local or obvious causes, and therefore still enveloped in Mystery.

They have generally, though vaguely been imputed, to an Inflammatory or other Morbid condition of the Atmosphere, and recently Investigators, by historical induction, have endeavored to show, that these ap-

pearance is associated with the eruptions of Volcanoes: the occurrence of Earthquakes; the coming of Comets; Violent Tempests, and other Natural Phenomena equally grand and imposing. But at any rate, whatever be the influence of these commotions of Nature, they are only the first link in the great Chain of Causation, and can afford us no Solution of the difficulty.

I will now make some observations, relative to the laws of Epidemics.

The first Law is, that no two diseases of equal force, can exist

at the same time. There may be some exceptions to this rule, but they are rare, and probably occur only when both diseases are feeble in their action. It was long ago remarked, that Epidemics are species of Monarchy, exacting homage from all inferior diseases, and imposing their own livery upon them. Thus when they are not sufficiently powerful to subdue, they at least, impart to all others, in a greater or less degree, their own peculiar character.

During the prevalence of the Yellow Fever, all other diseases assumed more or less of the Inflammatory

type, and were attended with gastric uneasiness, but when the Typhus appeared, they were changed in their character, adopting a more feeble shape, and exacting an entire new mode of treatment. So complete indeed was the revolution, that a considerable time elapsed after the, after the appearance of the Epidemic before the views, which it created were dissipated and Practitioners reverted to their former opinions, and modes of managing diseases. It is not an unwarrantable remark, that by continuance all Epidemics are gradually lessened in force, and

in time are gradually overcome by subordinate complaints: as is commonly said of March, "it enters like a Lion and goes out like a Lamb", or (vice versa) as the same idea has been more elegantly expressed, "Thus invade with the violence of a band of Savages producing indiscriminate destruction, and retire with all the mildness of civalized people".

Second Law. That they are influenced by the quality of the atmosphere, and by an infinite variety of causes: on this account the history of this disease, though the same varies exceedingly. In no two years

did the Yellow Fever assume the same guise, or demand exactly the same treatment. This is also true as regards our Winter Epidemics. Even during the same season there is often no little fluctuation, in the character of this class of diseases. They differ in the commencement and progress, and final termination.

Epidemics are also varied in the different sections of the same country; and hence those intemperate depressions, which have so often disgraced the annals of Medicine.

The Typhus as it occurred in the

Middle and Southern States, differed materially, in its nature and in the treatment.

Third Law. Though Epidemics are usually, in the same Season, characterized by uniformity of Symptoms, yet they are not always thus distinguished, attacking the different parts of the body, they assume the form of almost all other diseases. When the force is directed to the blood vessels, they produce fevers of every grade; When it is directed to the Alimentary canal, they give rise to all the intestinal affections; and when it is directed to Brain and Nerves - Apoplexy,

Delirium, Tremors &c are the consequences, although different in appearance yet the Physician should always bear in mind that these complaints assume the form of the reigning Epidemics, and are probably mere varieties of the same disease, according to the circumstances under which the attack was made, it is important to keep this truth in view, as it leads to the most correct practice. The preceding are the most important laws, which direct the operation of Epidemics.

It is a point sufficiently well ascertained, that a calamity is

healthy in proportion to the degree of improvement. Entirely drained and cultivated it cannot fail to be so, but a partial removal of the covering, which nature has given to the land, exposes it to the action of the sun, and pestiferous exhalations are the necessary consequences. The opposite conditions either when the country is wholly uncultivated, or in the highest state of agricultural improvement, are most conducive to health. But there are peculiarities of situation which have great influence. Thus a dry, sandy soil is in general very healthy; though in consequence of

the reflection of heat and light is apt to give rise to some diseases particularly to inflammation of the eyes. A clay soil, is always unhealthy; not only from its moisture, but also from the decomposition of the atmosphere. Mountainous regions, as a general rule, are conducive to health: but there are numerous exceptions: and in the neighborhood of marshes, hills are most liable to diseases, owning to the interception of miasmata, and their being precipitated on the exposed declivity. It is very generally known that proximity to the Sea-shore, is unfriendly to health, especially where there is

any tendency to Pulmonary affections;
What the cause is, has not been accurately determined, By some, it has been ascribed to the moisture of the Sea, by others to an impregnation of the air, with Saline particles; Where this is the case, Consumption should be aggravated by a Sea voyage, while the contrary is known to be true. It probably arises from a mixture of Sea and Land air. It is stated by Mariners, that as soon as they come within landings, however healthy as they may have been previously, they are often seized with a cough. So common is this circumstance, that it is considered one of the

indications of approaching landings.
Changes in Dilication is another
cause of affecting health.
Nothing is more common than for
Strangers arriving in the United
States, to be attacked with some one
of the diseases belonging to our cli-
mate. This is the case in all coun-
tries.
It has been remarked that persons
moving from a sickly country to a
healthy city are liable to be attacked
by fever. This is owning to the pre-
disposition occasioned by miasmata,
or other causes, being excited into
action, by the novel and stimulant
impressions, which a city affords.

Old Persons removing from a Miasmatic to a healthy country, are soon seized with debility, languish and die. The causes have already been explained.

Dwelling Houses, are among the causes of injury to health, by being constructed of green material or inhabited, before they become thoroughly dry. They sometimes give rise to diseases of serious nature, not a few instances of Pulmonary affections and Rheumatism, may be traced to this source.

Trees planted around the Houses, are unwholesome, by intercepting a free ventilation and by occasion-

ing a great quantity of moisture. Damp Cellars, where various substances, vegetable and animal substances, are often left to putrefy, are also productive of diseases; - and I think likewise may be mentioned, those Cellars, which are liable to inundation (in heavy and protracted rains) more especially in the Spring of the year. Many other circumstances of a dwelling house may have the same effect, So much is this the case, that Practitioners when they find any family liable to sickness without any obvious cause, should search for some source, from which the disease might have arisen, Lurking causes

may thereby be discovered, and the health of the family be restored and preserved by their removal. It is related that in one of the foreign Universities, all the Students to the amount of several hundred, were taken ill, while the Neighbours around were in perfect health. upon inquiry it was found, that a large quantity of potatoes, were putrefying in the Cellar. These were taken away, and the disease departed with them.
Prof. This is another cause of disease, and may prove so, either by its quality, quantity, or Fashion, — From its quality it injures by being the food repository of perspiratory Matter, and

and for other reasons. When we desire a great degree of warmth we we should resort to down, wool &c. Down and Fur have been proved to retain heat, longer than any other articles, Wool, Silk, or Cotton should be worn next the skin, Flannel preserves the temperature of the body, When dry or wet, and is useful by keeping up an uniform perspiration

Linen Shirts next the Skin should be strictly avoided from use. They are cold, apt to become wet with perspiration and suffering the body to cool rapidly, are often productive of fevers. They soon become dirty and burn a

and give rise to various cutaneous affections.

Dress may prove injurious by its [illegible] not being adapted to the condition of the weather. It is mostly from its lightness, that all effects are produced. Nothing is more important for invalids than a graduation of their clothing, according to the fluctuation of the weather.

By Fashion dress is often subservious of health, this is the case with regard to both sexes, but more especially the female sig-ature around any part of the [illegible] are injurious, tight collars [illegible]

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]

Hair Powder, was in consequence of the Prince [illegible] and [illegible] an enlargement of the Brain, attended with bleeding at the [illegible] of the hair, with which some of the Nobility of Poland were affected. It is perfectly well known that the use of [illegible], was owing to the universal [illegible] of [illegible], in the time of Charles 2nd. It is equally well ascertained that long Neck-Clothes or Necklaces, were introduced by the Prince of Wales, and Duke of York, who used them to conceal the Lacs on their Necks, resulting from Scrofulous Lacs. Nor is it less certain that tight Lacing was

brought into [illegible] in Englewood an
emergence of a fashionable Lady of the Court of St James having become pregnant, and taking this means of concealing her situation, which [illegible] deplorable.

Pet. It is hardly necessary to say that this has great influence on health. There are several ways in which it may produce unpleasant effects on the system. Many persons from peculiarity of constitution are imperceptibly affected by food, which in the generality of mankind is salutary and agreeable. Thus Flour, Milk, Fish, not to mention a multitude of other

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]

are the frequent consequences of an excessive indulgengence of the appetite. The same cause produces prelenatural drowsiness, [illegible] of the [illegible] faculties, Apoplexy, Palsy &c. Diseases on the contrary may arise from the consumption of too little food, Compression, [illegible] of the Alimentary Canal, Slow Fever, and protracted condition of the system results from this cause. The quantity of food that should be eaten daily, cannot be accurately determined, much depends on the nature of the article, and the exigencies of particular persons. It has

[illegible] [illegible] [illegible] [illegible]

Fats - 1.800.

Amyloids. 6.262..

Salts - 465..

Water - 48,400..

Moleschott's Table

People in easy circumstances take as a rule more Proteids and Fats [illegible] [illegible] [illegible]; and [illegible] [illegible], when a choice is possible. Probably indicates that such a Diet is the better one: The Proteids in the above table seems especially deficient.

During the continuance of some diseases especially fevers, the amount of nourishment is inconceivably small here however the patient is

preserved, by the combined stimulus of the disease. The [illegible] and [illegible] which [illegible] tend, Cases are recorded where life has been protracted for months, though no disease existed, and I can [illegible] any [illegible] food was [illegible], several instances of this kind can be produced. Dr. Tanner survived forty three days without any solid food. But in all of them water was drunk to allay thirst, and religious fervor and enthusiasm, proved of great assistance in preserving life. It is not the quantity of aliment only, that is injurious to health, its quality has the same

effect, This is particularly observable in armies and in the garrison of invested cities, where the besieged are often reduced to live on the most putrid and offensive articles. The consequences are Dysentery, Diarrhoea, Malignant Fevers, and the worst forms of Cutaneous affections. But these effects are not always confined to military life. In many instances, the crops of grain, fruits and vegetables, become deranged by the weather and rendered unfit for use. By feeding on these articles, diseases of an inveterate character are produced, and ravages whole districts.

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]

the general prevalence of Cholera and other Complaints, with which our Cities are affected in the Summer and Autumnal Months.

Best food is injurious not from its quantity, and usually done, but also from its being taken at improper and unsuitable times. It is well known that all kinds of aliment, are not equally proper for the same persons, at every period of life. Thus Nothing is more absurd, or more hurtful, than to load the Stomach of a Child with food, which is suitable for an Adult. Nor are persons advanced in years, to be allowed or notty the same diet, as

is proper for those, who are in the Meridian of their days, common sense teaches us, that the kind of Amusement should be adapted to the condition and strength of the digestive organs, which neither in infancy nor old age, are so powerful as in the prime of life. It is equally important that in climates subject to the vicissitudes of the Season, the Diet should be changed accordingly. In winter animal food and strong drinks may be used with safety; but in Spring and Summer they would often occasion inflammatory diseases, and should in a great measure

give way to vegetable food and life
stimulating beverages. Nor is this
all. The kinds of aliment should
be different, at different times of the
day; nothing is more subversive
to health, than hot meat suppers.
Colic, Gout, Apoplexy, and troubli-
some Obesity, are some of the results,
of this course of life.
There are indeed many people, to
whom it is necessary, for the preser-
vation of their health, to distinguish
between the kind of food at Break-
fast and Dinner, many cannot break-
fast on animal food - but much
on this subject depends on habit, so
great is the force of this principle

that it compels not a few when they have deviated from nature, to continue in their accustomed practice, It would appear from what has been before said, relative to the diurnal revolutions of our various functions, that the morning is the time when the most hearty and substantial meal should be made, for the digestive powers, as all the others are greater, than during any other part of the day.

Food moreover is pernicious, from the mode of preparing it. Too little or too much cooked, or too highly seasoned with condiments, deprave the powers of

digestion, occasions attacks of Cholera, and a long train of gastric affections.

In the last century a great change was effected in the Diet of Civilized Nations, by the introduction of Tea and Coffee. That these delicious beverages, when strong are productive of pernicious consequences, is too well proved by the general prevalence of Hysterical and nervous affections, Headache &c. among those, who are most in the habit of using them.

They are insidious in their attack and undermining the constitution when the person him-

self either respects it.

As a cause of disease, closely allied to the preceding, I will now speak of Drinks. These in civilized life are extremely diversified, but that the most salutary is the one afforded so bountifully by the hand of Nature. But water itself may prove the cause of disease. When taken very cold in hot weather it produces violent cramps of the Stomach and sometimes instant death. It does injury also, if swallowed in too large quantities, or at an improper time. Some persons are in the habit of using it very early in the morning, during

meals, and on going to bed: if taken too largely under such circumstances, its uniform effect is to debilitate the tone of the stomach, disturb the appetite, impair the powers of digestion, and produce dyspepsia, with all its distressing consequences. Water is also injurious by admixture, with various extraneous substances, by which its purity is vitiated. It is every where more or less liable to such impregnations, but particularly so in large cities in consequence of the pipes with which they abound.

But the mischief is slight, compared with that which results

from some of the Liquors prepared by art. It is almost incredible, how great has been the rage, among all Nations, from the earliest period, for the preparation of stimulant drinks, which might be more calculated, than water to strengthen the body, exhilarate the spirits and cheer the mind. Every Nation of antiquity had some favorite liquor of this kind, and among the moderns the number have suffered no little, but alas we see the folly of its effects + ends.

Respectfully Submitted.
Philemon J. Macon

Thesis

on

Fractures of the Lower Extremity.

by

H. D. Withers.

University of Maryland,
Baltimore, Md.
February, 13-83.

Fractures of the Lower Extremities.

The subject of fractures is so broad-ans, and this is hardly necessary to add, an important one. "No injury is more common than fracture, no service is more frequently required of the surgeon, than that of setting a broken bone, no subject in the whole range of Surgery has been more ably and vigorously discussed, and yet perhaps there exists at this present time no subject about which there is a more radical difference of opinion". Yet the difference of opinion is great, not only at this present time, but

many years of study and investigation must yet intervene before that happy day shall down.

Fractures, as regards locality, are divided naturally into three class viz: fractures of the head, upper extremities and lower extremities. We shall confine ourselves to fractures of the lower extremities and particularly fractures of femur.

Fractures of the lower extremity are divided into those of the pelvis, thigh, leg and foot.

Fracture of the pelvis is important, not so much as regards the broken bones themselves, but it is important because of the contained viscera which are liable to injury from the accident. The injury is usually the result of some crushing force which presses the two sides of the pelvis together. As might readily be supposed it occurs most frequently among the working classes, they being almost continually exposed to the severer accidents.

The diagnosis is comparatively easy. We have the general

shock, passage of blood with the feces and urine from laceration of the rectum or walls of the bladder, these two viscera being most frequently involved. Crepitation is also present.

The prognosis is always more or less grave, but the accident is most apt to be followed by death if any of the viscera or soft parts have been wounded. In case of recovery from the accident there may or may not be any deformity.

The treatment must be quiet and rest under all circumstances. The symptoms must be met

as they arise. If any of the viscera be involved treat according to the degree and position of the laceration. If the rectum be injured split the sphincter ani, if the blood &c., cut down upon it and make a hole in the bottom to prevent the urine in filtrating the connective tissue and thus setting up septicaemia. Give in any case only the simplest and at the same time the most nutritious diet.

The most frequent of all fractures of the lower extremity are those of the femur. But while the are the most frequent

of the lower extremity they do not equal in frequency those of the upper extremity. They are usually put down as the most frequent fracture in the body. But Bryant says, "From hospital statistics these fractures appear to be more common than those of the upper extremity; but, as the majority of fractures of the upper extremity are treated as out-door patients, and of which no records are kept, the conclusion is weakened by a fallacy. Mr. Langdale, however, tabulated all cases at the Middlesex Hospital for six years, and finding

that 516 examples of fracture of the lower extremity took place to 714 of the upper, proved that fractures of the upper extremity are 60 per cent. more frequent than those of the lower." But while the per cent. of fractures of the lower extremity may be less than that of the upper, the importance of the fracture is certainly greater, especially as regards prognosis, from the very nature of the case. A man with a fractured humerus is not liable to have a crippled gait on recovery but how few are the perfect recoveries from

fracture of the femur. Professor Tiffany holds the opinion that perfect recovery is one of the rarest of rare things. For this reason — shortening — fracture of the femur stands first in importance among fractures of the extremities.

Fractures of the femur may be divided into those of the neck, shaft and lower end.

1 — Fractures of the neck. They may be either intra or Extra-capsular or both. The intra-capsular fracture may "almost be looked upon as a special injury of advanced life, be

ing but seldom met with in per-
sons under fifty. Thus Sir A.
Cooper states that, of 251 cases
with which he met in the
course of his practice only two
were in persons below this age.
It may however happen at an
early period of life: Stanley has
recorded a case of a lad of eigh-
teen, who met with an injury,
and Hamilton has described it
as occurring in a girl aged six-
teen and in a man aged twen-
ty five. A remarkable cir-
cumstance in connection with
this accident, is that it com-
monly happens from a very slight

degrees of violence, indeed almost spontaneously. Thus, the jarring of the foot in missing a step in going down stairs, catching the toes under the carpet, tripping the toes upon a stone, or entangling the foot in turning in bed, are sufficient to occasion it.* It is especially in women this injury is met with".

"The Extra-Capsular fracture is commonly met with at an earlier period of life than the injury which has just been described, being most frequent between the ages of thirty and forty but it is also met with at advanced periods

of life. It is the result of the application of great and direct violence upon the hip, and occurs equally in both sexes. This fracture may be of two kinds; the simple or the impacted. In both cases the bone is commonly broken off, or immediately outside the insertion of the capsule of the joint. The fracture is almost invariably comminuted; indeed I have not known a case in which the great trochanter was not either detached or splintered into several fragments. In many instances the lesser trochanter is detached, and the upper end of the shaft injured. This splin-

tering of the trochanter is owing to the same violence which breaks the bone, forcing the lower end of the neck into the cancellous structure of this process, and thereby, a wedge-like action breaking it into fragments. When the neck continues [illegible] we have the impacted form of fracture."

The diagnosis of these varieties of fracture is comparatively easy in most cases. Most prominent among the signs are shortening of leg, foot lies everted, crepitation by drawing the foot downwards, and the non-rotation of the trochanter in a cir-

The prognosis is grave, as regards old people especially. Non union of the fragments is the rule with very few exceptions in the intra-capsular variety, and union with shortening in the extra-capsular

The treatment varies some what in the two varieties. In the intra capsular variety as these two fractures do not unite by bone, unless the fragments being good contact it is useless to confine the patient to bed for any long period, if there is, especially the amount of shortening, indicate caution

siderable amount of separation between the fragments, or if the patient be very aged and feeble. In these circumstances lengthened confinement to bed proves fatal by the depressing influence which it exercises on the general health, by the intercurrence of visceral diseases or by the supervention of bed sores. It is a good plan to keep the patient in bed merely for two or three weeks until the limb has become somewhat less painful, the knee being well supported up on pillows. After this time a leather splint should be fitted to the hip and the patient be allowed to get up upon crutches. There will be lameness during the remainder of life; but with the

aid of a stick and a properly adjusted splint, but little inconvenience will be suffered."

In the treatment of the extra-capsular variety it is both convenient & efficacious to use the long splint, a padded belt if necessary, being strapped firmly around the hips underneath it; or the plan recommended by Sir A. Cooper, of placing the patient on a double inclined plane, with both feet and ankles tied together, and a broad belt, well padded, firmly strapped around the body, so as to press the fragments of the trochanters firmly against each other, will be found an excellent mode of keeping the limb of a proper length, and

the fragments in contact."

2 — The most common by far of all fractures of the femur are those fractures which occur through the shaft of the bone. The direction of the break may be either transverse or oblique, the oblique variety being far the more common of the two. Very rarely we may have the fracture dentated or comminuted or impacted. The fractures through this part of the bone have been conveniently divided into those of the upper, middle and lower third.

The diagnosis is easy in any case, the signs being well marked. "Here is shortening usu-

ally to a considerable extent, with e-
nersion of the limb, crepitus readily
produced, and much swelling from
the approximation of the attach-
ments of the muscles. The lower frag-
ment is always drawn upwards, and
to the inner or outer side of the up-
per one, and rotated outwards; and
when the fracture is high upwards
there is a tendency to angular defor-
mity in consequence of the projec-
tion forwards of the lower end of
the upper fragment. In all cases
there is this forward projection,
and in most cases ~~and~~ an outward
displacement and adduction as well
of the upper fragment. But in some

instances, though more rarely, it is drawn inwards, as well as forwards."

The prognosis is usually favorable unless it be a very severe compound fracture and the patient be one of advanced years, the recovery taking place by union of the broken fragments with shortening.

As regards the treatment Erichsen gives six modes viz:

1. Simple relaxation of the muscles of the affected limb by flexure of the leg upon the thigh and the thigh upon the abdomen. This applies especially to fractures of the upper third.

2. Extension of the limb without re-

gard to muscular relaxation by means of Liston's long splint and perineal band. This plan of treatment applies especially to fractures of the middle and lower thirds.

3- The double inclined plane, this is used in treatment especially of compound fractures.

4- Extension of the limb by the attachment of a weight to the foot

5- The starched or plaster bandage.

6- Smith's anterior splint.

In the treatment of fractures of the shaft of the femur, backed by the brilliant record of our own University Hospital, xxx extending over a period of near

twenty years, we must place head and shoulders above all other methods Professor Allen P. Smith's anterior Splint method.

A few words only are necessary to describe his splint. "It consists of a parallelogram of wire about the size of a No. 10 bougie, about three inches wide, and six or eight inches longer than the limb to be treated; cross wires connect the two parallel wires at intervals of about six inches, and these are twisted so as to make a ring in the middle to which the hooks used in suspension are attached. Two hooks are used, one

at either end of a stout cord about eighteen inches in length, this cord plays in a ring or hook in a longer cord which passes through a pulley in the ceiling, and is made fast by the tent block, thus allowing the elevation to be made at will.

Smith's Anterior Splint is especially useful in the treatment of compound fractures of the leg, being well adopted to such fractures by its peculiar construction. It has, in the words of Professor Michael, the following advantages over all other systems of treatment of fractures of the lower extremity. viz:- 1- The extremi-

-ties of the fragments are maintained in perfect opposition without the exercise of any constriction upon the limb.

2. In cases of excessive displacement of the fragments, extension is easily accomplished by the weight itself of the member, and the reduction accomplished by the *point d'appui* attached to the apparatus, and this without any dragging.

3. The method of extension is exceedingly convenient for the employment of irrigation and for the dressing of all the wounds of the member, upon which we

may practice all the operations necessary without disturbing the apparatus.

4- The heel being uncovered is free from pressure and from the acute pain which, in the use of other means, so often embarrass the surgeon.

5- The patient can change his position and raise himself in bed without inconvenience.

6- Finally, what is not least important, the apparatus of Smith is the only one which, even in the most severe and complicated fractures, allows the patient to be conveyed to any distance

without exposing him to any danger and without causing him the least pain.

We would respectfully add one other advantage to those already enumerated, viz: the ease and comfort, to both patient and physician, with which the splint can be applied. Very rarely is it necessary to resort to the administration of an anaesthetic to relieve the pain attending the usual setting of a broken bone.

The results from the use of this instrument have been wonderful. I myself during my

whose residence in the hospital, I saw in the early part of the summer, a sailor brought in who eight weeks before, while at sea had fallen and broken his leg, the middle third of his femur. Bony union had taken place with at least three inches of shortening. He knew he was rebroken by Professor Michael and the limb put up in Smith's anterior splint. Three months after the operation the sailor left the hospital with the slightest limp in his gait, there being a quarter of an inch shortening only left.

The above are some of the results which have flowed from the use of the anterior splint, and for these reasons if for no others the name of Smith deserves to be ever held sacred in the history of the University of Maryland.

It was our purpose when we began this essay to consider the whole of fractures of the lower extremities; but as we have already far exceeded our limits we close with fractures of the femur.

H. D. Withers.

The following works were consulted in the production of this thesis:

Erichsen's "Science and Art of Surgery, Vol I."

"Ormsby's Practice of Surgery."

Prof. L. McLane Tiffany's Lectures notes).

Prof. J. E. Michael's "Critical, Historical, and Clinical Studies of Smith's Anterior Splint, of April - 82."

[illegible]

Pneumonia is an acute inflamation involving the alveoli of the lungs. There are two kinds of the [illegible] pneumonia croupous or fibrinous, and catarrhal. Catarrhal pneumonia differs from croupous in the seat of the [illegible]. It attacks the the capillary tubes immediately next to the alveoli and it is a catarrhal, instead of a croupous inflamation. There is also what is called lobular pneumonia [illegible] nothing more than catarrhal pneumonia the changes in the lobules being secondary to the catarrhal process in the ultimate [illegible]

[illegible]

[illegible] confined to

[illegible]

Causes

It is believed that pneumonia [illegible] constitutional disease [illegible] fever. It is self limited, and terminates by crisis or by lysis. It is a very common disease and occurs in all latitudes, and climates, and at all ages it is common [illegible] It is very fatal [illegible] age.

[illegible] are [illegible] frequently

affected [illegible] external conditions which cause it. Air, door, light, bad atmosphere, want of [illegible] influence stability pure [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] counteracted by humidity and variation of temperature. [illegible] it is more prevalent in winter and spring. It is a common [illegible] that [illegible] caused by cold especially by [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

It is generally [illegible] that
catarrhal [illegible] is [illegible]
[illegible] that way. But the [illegible] factor
[illegible] [illegible] [illegible]
is thought to be a phthisical
tendency.

Pathological anatomy

The state of the affected lung
is usually divided into three stages,
first engorgement, second red
hepatization, third gray hepatization.
In the stage of engorgement there
are two separate acts, the increased
blood supply and the pouring out
of an exudation. The lung has a
reddish brown appearance floats in

[illegible]

a ~~than~~ a healthy lung. It
capitates but little and is no longer
elastic. On section it presents
a redish brown tint, and exudes
a quantity of ~~of~~ blood. The
blood vessels are distended with blood.
The alt work surrounding the
alveoli is enlarged the mucous
membrane is dark redish from fullness
of the vessels. The hyperaemia [illegible]
the first stage. The next consists
in [illegible] out and coagulation
of an exudation. There is [illegible]
out [illegible] the a [illegible]
a fibrinous fluid with leucocytes.

[illegible] is [illegible] out
[illegible] the [illegible] and the [illegible]
of the [illegible]. In the
[illegible] and [illegible]
[illegible] cut off. The [illegible] part
[illegible] resources the [illegible]
of a liver that it has been called
red hepatization. The inflamation
now takes one of two directions,
toward resolution, or toward [illegible]
transformation. In the first the
[illegible] material [illegible]
and the pressure is [illegible], the
watery parts of the exudation [illegible]
into the vessels, and the solid parts
undergo fatty degeneration, and is

a Chin followed by fever, with
oppression in breathing, dull pain
in that [illegible] and [illegible] [illegible]
[illegible] [illegible]. The temperature
of the body is high especially
the [illegible] or fifth day. Secretions
scanty, the [illegible] contains an excess
of urea, and is deficient in the
[illegible]. Expectoration commences
about the third day. The
Sputa being composed of mucus
lymph, and blood, mixed
together. The height of the attack
is between the fifth and
seventh days, after which
the temperature decreases [illegible]

[illegible]

[illegible] unpalatable

[illegible] symptoms increase until death occurs.

Diagnosis

Pneumonia may be known from pleurisy by the absence of the sharp pain, by the crepitant rale and by the rusty sputa. From bronchitis, by rale dullness in percussion. From [illegible] of its [illegible] and sudden onset, and by the sputa.

Prognosis.

Simple pneumonia of one

[illegible] of [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
circumstances, and judicious treatment.
To get well, it is generaly fatal
in the age. And double pneumonia
is dangerous at all periods of
life.

Treatment

Pneumonia [illegible] be
treated on the expectant [illegible]
In the first stage or stage of
congestion pale doses of Quinia [illegible]
[illegible] of [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
small and frequently repeated [illegible]
of [illegible] of [illegible] a [illegible] [illegible]

[illegible]

[illegible] blisters and bathe the feet in

[illegible] feet [illegible]

[illegible] recommend the salts of Potash

others the salts of amonia

When Consolidation occurs all arterial

sedatives should be discontinued

To control the temperature [illegible]

and the cold bath are recommended

If there is much depression [illegible]

the stage of red hepatization

[illegible] may be given in stimulants

[illegible] and alcoholic stimulants

may be cautiously administered.

Wakefullness and delirium may

be relieved by [illegible]

[illegible] food

[illegible]

first. Counter irritation [illegible]

[illegible] stage of

congestion. [illegible]

[illegible] stage of

red hepatization. [illegible]

[illegible] at

[illegible]. When there is [illegible]

[illegible] expectoration a weak pulse

[illegible] relaxed and sweating

[illegible]

doses is useful.

J. McStevenson

Thesis

written by A Edgar Tussey

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [

12

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [

must be placed in the various preparations of Ammonia. The Carb. being one of the best which may be given hypodermically if the patient cannot swallow. We have said that the special use of alcohol is as a cardiac stimulant. Let us look at some of the conditions in which it is especially indicated. Typhoid fever is well known to be an adynamic fever, a fever in which there is a great tendency of the heart to fail; in the advanced stage of this fever when the pulse is rapid and weak 120 – 130, which does not indicate strength but weakness, a condition in which the first sound is abnormally weak. The effic

[illegible]

[illegible]

[illegible]

surgeon.

Thesis submitted for graduation

by,

Henry Rolando.

1883.

Bacteria and Heterogenesis

The progress of medicine has been accompanied by theories relating to the causes of disease, at each epoch, suited to the existing knowledge of the subject. Pandora's box has, indeed, ever been attractive, and its mythical contents diligently sought and speculated upon; but, unfortunately, in no department of learning has speculation been so unproductive, as in medicine. In this respect, the comparative perfection of the methods of modern research, by furnishing facts to limit conjecture, has given the scientist of the present day, a great advantage over his predecessors, but even with this, speculation is still resorted to & the solution of Etiology, yet embraced in a Theory. The "Germ Theory" of disease although its

foundation was laid as far back as 1837, by the investigations of Schwann & De Labour, as a development of the past twenty years. Up to 1860 its progress is hardly perceptible, but about that time, the investigations of Devaine & Pasteur, upon Splenic fever & Pebrine, furnished facts to replace the often observed analogy, between fermentation and febrile conditions, & thus gave it immediate shape and form. So little, indeed, had investigations progressed, that up to 1858, Bacteria were universally believed to be animals, Devaine being the first to prove them to be plants. But as the close, possible relations of Bacteria with disease became more evident, investigations multiplied and all their associated problems received accurate investigation. Of these none called forth

more discussion, and produced more conflicting evidence, than the doctrine of "Spontaneous Generation". The idea contained in this doctrine was not a new one, but only the application of an old explanation to a new problem. The philosophers of ancient time, following the teachings of Aristotle, employed it to account for the presence of frogs and eels in river mud, from which they thought they sprang, in fact it was applied to explain the development of all animals, whose generative functions they did not know of. More recently it was made use of to account for the presence of maggots in putrifying meats, and it was not until 1668 that Francesco Redi, physician to the Grand Duke of Tuscany, having

noted the usual presence of flies, demonstrated their essentiality. Thus it would appear that Heterogenesis has been a sort of scape goat, called in to supplement defective knowledge upon the problems of generation.
In considering this question as applied to Bacteria, let us begin by supposing it proven, what will be the result? Most obviously, Bacteria can not be considered as the causes of the diseases attributed to them, although, they may give rise to certain symptoms, but must be looked upon, in the majority of cases, as pathological products. This would involve the hypothesis of a primary

which produces effects, of which
Bacteria are only one, which there
could, and most usually would be
expected to occur, cases of Splenic Fever,
Chicken Cholera, &c, in which they
are always found, without any
traceable connection with Bacterial
infection, but experience abundantly
shows that such is rarely the case.
Thus this theory interferes very seriously
with what is known concerning the
relations of Bacteria with disease,
and when the application is carried
further to the general theory of disease
it will be found necessary to abandon
the "Germ Theory" entirely. In fact
nearly every argument for Heterogenesis,

is one against the doctrine of a "Contagium Vivum". We must, then, give up one or the other, and I think the choice is not difficult, for if these two questions are considered side by side, it will be found far more easy to reject the doctrine of Spontaneous generation, than to accept the conclusions, its acceptance will necessitate. So then, "a priori", there is every reason to doubt Spontaneous generation.

Ever since the experiments upon Heterogenesis were first performed the results have been most conflicting, and have furnished ample support both to its opponents & advocates. Indeed in most questions relating to

Bacteria, as we have to say, opinions and evidence, can be easily found, fully sufficient, to settle any discussion, any way desired, depending only on the side from which it is viewed. To discuss all the evidence produced to sustain these opposing opinions, is impossible, and would in fact somewhat unnecessary, as the subject is now pretty well settled. Therefore only a few of the most important points will be mentioned.

About 1874, when the question was very actively discussed, Dr. Carlton Bastian of [illegible], was one of its ablest supporters and he with many others claimed that abiogenesis

infusions could develop Bacteria, when strictly guarded against external contamination, "We may", he says, "carefully prepare an infusion from some animal tissue, be it muscle, kidney or liver, and may place it in a flask, whose neck is drawn out and narrowed in a blow-pipe flame, we may boil the fluid; seal the vessel during ebullition, and, keeping it in a warm place, await the result, as I so often have done. After a variable time, the previously heated fluid within the hermetically sealed flask swarms more or less plentifully with Bacteria and allied organisms" This result was brought forth as a

conclusive proof of spontaneous generation. but it was not long before the same and many more experiments were performed, with exactly opposite results so that as far as this kind of evidence went the question was an open one. Since 1874 investigation has thrown much light upon this conflicting conclusions. Arguing from the destruction action of boiling water upon the tissues of the body, Bastian believed that boiling was deadly to all Bacterial germs, he therefore thought that a few minutes boiling would insure sterilization, and very many of his infusions were raised to only 140°F. Here investigation has shown

we have a most serious source of error for (3 h, or 4 hours boiling, have often failed to destroy the germs of [illegible] low organisms. Considering all his precautions perfect this one mistake is sufficient to render worthless all Bastians experiments. It is not necessary however to look for errors for the non occurrence of spontaneous generation under the circumstances claimed by Bastian has been clearly proven by Tyndal. The observations of this eminent scientist were conducted in a most accurate, careful and scientific way, covering the entire subject, and showing in more than a thousand experiments that sterilized fluids, preserved from infection, do not

develop Bacteria. But more than this the means he was obliged to employ to insure sterilization, and the great care required to protect his solutions when in this condition, as shown by his failures, reconcile the conflicting results of his predecessors. The ease with which Bacteria could be carried about and the important possible influence of locality, considerations hitherto entirely overlooked, were beautifully illustrated by some of his experiments

In 1875 while reviewing the work of Bastian, Tyndal found five minutes boiling sufficient to sterilize all his infusions, continuing his investigations the following year he was perplexed

to find that exactly similar solutions, prepared in the same materials, and in the same way could not be rendered barren even after several hours boiling, and in one instance life became manifest after eight hours continuous boiling. After testing every possible source of contamination which this variance indicated he finally removed his experiments to a laboratory in another institution, and found that there, as with his earlier experiments, five minutes boiling was sufficient. This proved the correctness of the conclusion previously formed, that in his own laboratory he had an atmosphere infected with germs especially resistant

to boiling. The origin of these germs was readily traced to some old dry hay used in making hay infusions. In order to carry on his experiments at home he had a little room constructed on the roof of his laboratory, hoping in this way to obtain a pure atmosphere. But here also, at first he had failures, which proved to be due to the transportation of germs in the clothing and even the hair from the infected air of his larger room. After guarding against this and many other possible sources of infection, he finally was able to procure sterilization in this small room by five minutes boiling while the same infusion in his large laboratory, eight yards away, resisted as much as

two, three, four or even eight hours continuous boiling. Here we have strikingly illustrated the importance of knowing the Bacterium ... is dealing with before any conclusions are drawn from experiments. And the consideration of this point wholly neglected by earlier observers, renders very evident the great ease with which they, living in different or even in the same cities, could and did obtain entirely dissimilar results.

In view of these statements of spontaneous generation in artificial culture fluids, which for a time occupied such an important place in the literature of the subject, must be considered as disproven. But although this was

its most important support Heterogenesis had many other facts and cogent logic to back it. It was claimed, that Bacteria were not present in the air, and for a time was believed by Dr Burdon Sanderson, Cohn and others, as is shown by their writings. The fact upon which this conclusion was based, has been shown to be accurate enough, but the inference wrong. It was found that mineral culture solutions, if exposed to the air, could develop Torula, but not the Bacteria of putrefaction. Evidently, coming alone this was strong presumptive evidence when interpreted by the Heterogenesist, and hardly compatible

with the views of his opponents. But, considered in connection with the abundant proof at hand of the presence of Bacteria in the air, it only signifies that such solutions are not suited to the development of Bacterial germs, although they can quite readily support the other. It has also been said, that Bacterial being sometimes found in the serum of blister blebs and in closed abscesses, we had a demonstration from nature herself, it being apparently impossible that infection could have occurred from without. But one side of a question must never be looked at alone, and it must be remembered, that to say the least, cases in which

Bacteria do not occur, are fully equal to those in which they do, so the argument works quite as well one way as the other. Besides a great deal remains to be learnt about Bacteria and more knowledge may explain this as well as many other anomalies. But it is not intended to enter here upon a discussion of all the fact and fancy upon this subject and having considered it thus far only one more argument will be mentioned which for its bearings upon this and other questions will be of interest.

Are Bacteria present in the tissues of the healthy living organism? The affirmative answer to this question was

also one of the numerous resources of spontaneous generation, suiting its precepts well, and easily supported by evidence. In fact Dr Tiegel, working with Kühne, Burdon Sanderson and Bastian had found, by cutting animals open and removing their viscera, which were immediately thrown into melted paraffine, all antiseptic precautions being observed, that on subsequent examination the organs thus treated always contained Bacteria. But the risk of accidental contamination in such experiments is evidently very great, and considered with the opposite results obtained by other investigators takes away very much from their

conclusiveness Arguing from analogy we might suppose, knowing the life history of Taenia, that it would be just as easy for Bacteria to enter the circulation from the alimentary canal, as it is for the ova, or more matured forms of this parasite, and this belief would be strengthened by the observation of T. R. Lewis, who has found certain forms of Nematode worms existing in the circulations of Pariah dogs, rats, and even of men, without causing any inconvenience to these animals or being detectable by any external symptoms. But analogy is never to supplant facts and it is preferable to learn from the experiments upon the subject that if

we trusted it here we should fall into error. In the body are contained two fluids, which have been always recognized as peculiarly adapted to Bacterial development, these are Milk and Urine, if Bacteria did enter into the tissues of the bodies, we could hardly fail to find them in these liquids. That this is not the case I think is fully proven by Clinical observation, for urine and milk while contained in the body never undergo fermentation, unless the ferment has been introduced through one of the mucous tracts with which they are in relation, but if more is needed the experiments of Lister and others

have shown that if drawn and preserved with proper precautions, these liquids may be kept indefinitely, and hence could not have contained foreign organisms.

These observations prove that Bacteria are not present in the healthy tissues of the body. The reason, why this should be, is not so apparent it is possible, however that Bacteria, which have strayed from the alimentary canal, may be picked up and digested by stronger bodies of protoplasm, with which they come in contact.

Many books have been written upon the doctrine of "Spontaneous Generation" and it can hardly be expected to find

here more than the briefest outline of the subject. But enough has been mentioned referring directly to experimental evidence, to show that [illegible] well supported by logic, it is not by direct fundamental fact. So I think for the present, at least, it may be laid aside, until another scientific problem arises, which requires it as a solution. The mistake was made of supposing a living thing easily generated because it was small", but however much this may be a seeming possibility, there is no evidence to sustain it as an actual fact.

[illegible]

W. Dorsey Pinter

Tarboro

N. C.

Session 18[illegible]2 – 18[illegible]3

the patient, as it may with the
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [

most successful treatment is depressing the head below the level of the body; even sometimes holding the patient vertically by means of his feet. It will be seen as once how valuable is this method combining peripheral with usefulness. Artificial respiration may be tried but it has met with less success. Cold affusions to the chest and drawing out the tongue are useful adjuncts to the treatment.

The Medico legal relations of lesions thereof are important but I am confident that any man who pursues two courses at the [illegible]

to eye [illegible] when many of the operations are performed in a few seconds. Its advantages are that its effects pass off in a very short time and it produces no unpleasant after effects. The vapor must be as concentrated as possible & for this reason requires a close inhaler fitting tightly to the face. In a few seconds (about half a minute) the patient is unconscious of all pain. If the inhaler is removed, in as many more seconds he will be on his feet, faculties clear & himself unchanged in appearance and [illegible]

Magnuder Muncaster

Feb. 15th. 1883

Lecture

Digestion as applied to the human system includes the entrance of food into the mouth, the various changes it undergoes while passing along the alimentary canal, the passage into the body system and the disposal of the undigested and waste matter. Practically the digestive process includes the alimentary canal and the secretions which act on the food in passing through the canal. [illegible] the mouth [illegible] and the [illegible] [illegible] [illegible]

substances into four groups, viz;
carbohydrates, proteids, fats and salts.
Food on entering the mouth com-
mundiately into contact with
the saliva. The seed bestrain by
mastication becomes intimately
blended with the salivary secre-
tion. Too it is that the first
chemical changes are observed.
The saliva consist of a [illegible]
[illegible] fluid [illegible]
in reaction secreted by the parotid
and maxillary and sublingual
glands. The secretion from
the [illegible] lattice serves principally
to facilitate mastication and
deglutition. Of the [illegible]

dissolved by the saliva and pass
as readily from the alimentary ca-
nal. This however must undergo
a [illegible] [illegible] [illegible] as
the [illegible] of all [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] It
is probable that this change is ef-
fected by the [illegible]. There has
been much discussion as to
the products of salivary digestion.
It has been variously called
glucose, diastose, dextrose &c. It
has been proven to be of the same
general composition of [illegible] ($C_6H_{12}O_6$)
as it varies some in its chemical
properties from other saccharine
products (natural or artificial) and

immediately concern us in the process of digestion. It was been asserted and received with much favor by some that the free hydrochloric acid of the stomach is due to the decomposition of the chlorides of the food and not of the blood. That all the free acid is formed in this way is disproved by the presence of the acid in gastric juice obtained by artificial irritation. It is probable that the chief function of salts in digestion is the increased production of the glandular secretions by their irritating action. This is most obviously observed in

of digestion is according to the latest investigations by one of the doctrines of the Christian religion and the knowledge of the human body and are due to mechanical pressure, [illegible] [illegible] [illegible]

and connective tissue holds the organ in place. The anterior surface is convex, and covered entirely by the peritoneum; The posterior surface is much flatter than the anterior, or rests upon the corresponding crus of the diaphragm, in front of the eleventh and twelfth ribs. The [illegible] border is convex, and is directed a little forward, towards the parietes of the abdomen. The internal border is concave. It is interrupted by a notch, about an inch in length, which is known as the hilum of the kidney. This opens into a cavity, known as the sinus through which pass the vessels nerves, lymphatics

and under Structure.

The kidney proper, is composed of two different substances i.e., the outer or Cortical, and the inner or Medullary. The last mentioned is arranged in large conical masses, known as pyramids of Malpighi. The cortical substance composes about ⅔ of the entire gland. It consists of the Malpighian bodies, convoluted tubes, nerves, blood vessels, lymphatics &c, and is bound together by a connective tissue, in which may be seen more or less granular matter.

The medullary structure consists of parish, red-colored, striated, conical masses, known as pyramids of Malpighi

[illegible] cellular substance, [illegible] of the most [illegible] [illegible] [illegible]

ganglion, and [illegible] the [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible]

Function of the Kidney

This, the most important part of the subject that I have chosen to write upon, is not well understood; but there have been quite a number of very interesting discoveries in regard to the working of these glands. The kidney secretes quite a large amount of water; it also secretes some solid matter viz (blood of) [illegible] the sulphates and phosphates, also urea, the last of which is of the most importance. These glands as secreting organs, consist of two parts 1st the [illegible]; through which a filtration of water, (probably with salts in solution) takes place, and 2nd an actively secreting

[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [

do under higher. Accordingly, in healthy condition, none of the blood plasma passes into the urine; but if the pressure in the capillaries of the glomeruli is considerably raised, it does so pass its presence in the urine, being the most prominent symptom, of that dangerous class of maladies, grouped under the name of "Bright's Disease"

Filtration in the glomeruli is largely promoted by the fact that the calibre of the efferent vessel of each is rather less than that of the afferent, and thus the pressure in the thin walled vessels of the vascular tuft is raised. Diminishing of the arterial pressure will diminish the amount of Urine, [illegible]

increases the arterial pressure will increase the amount of urine. When a person is dying the kidney will stop secreting owing to diminished arterial pressure. A person in a state of syncope will secrete much urine. If the spinal chord be cut in an animal below the Medulla Oblongata, the secretion of urine will not go on, because the vase motor system is destroyed, and this causes the vessels to dilate, making arterial pressure very slight. Bowman advanced the theory that the albumen & water are both secreted together, and pass up into the convoluted tubes, where the albumen is taken up by

disease of this gland. Various nervous affections, as aforesaid, will cause an increased flow from these organs. If water be injected into the veins, it will cause an increased, although it does not cause arterial pressure to be increased. If you clamp the renal artery of a dog and then remove it the blood goes into the kidney in a rush; but it will not secrete again for an hour or two, this we think is evident that the glomerule are covered by epithelium, and that this epithelium has the power of secreting urine independent of blood pressure. Thus by putting on a clamp to the aforesaid artery, the flow of blood is stopped and thus (to a certain extent) dis-

the colouring matter of the urine, is due to the presence of one or more pigments (urochrome), neither has the nature of these pigments been learned. Bile-colouring matter of Bile, is often found in the urine. Urine is acid, and owes its acidity to Sodium Phosphate. Its acidity varies very much; in some animals it is alkaline. This last is due to the kind of food taken into the stomach. Acidity can be reduced by the introduction of alkalies into the stomach. [illegible] of the same acidity when [illegible], [illegible] is [illegible] [illegible] this is due to the decomposition of Sugar, for this last is in healthy urine [illegible] [illegible] it is said that

Materia Medica. Physiological Action and Therapeutic uses

of

Ergot

By

Henry B. Marriott.

In attempting a discription of the Materia Medica. Physiological action and Therapeutic uses of this most wonderful and important drug, nothing original will be offered, nor should it be expected or required of one who has had no personal experience whatever, and whose information on subjects pertaining to medicine is yet in its embryonic state. I shall therefore confine myself closely to the investigations and conclusions of those, whose medical achievements are undoubted. And as I wish to escape the villanous act of plagiarism I refuse to

claim it as my own production.

Ergot:

Ergot is a fungus growing from the diseased grain of Rye, Corn, and other cereals, it projects out of the glume or husk of the spike or ear.
It should not be collected until some days after it has begun to form, as it does not possess full activity until about the sixth day of its formation.
As found in the shops it consists of cylindrical or prismat-

ical, curved grain of a purplish color externally, and of yellowish or grayish white within. Its smell is peculiar and nauseous; its taste is at first faint but becomes bitterish acrid and disagreable; it yields its virtues to water and alcohol and does not keep well being attacted by a minute worm. It deteriorates more rapidly in powder than when in grain, in the former condition it soon becomes inert. Numerous analyses have been made of ergot. Some say that its specific effect depends in a high degree upon a propri-

mate principle of an acid character, to which the name of sclerotinic acid is given, but some confusion yet exists in regard to the constituents of ergot notwithstanding recent advances in our knowledge. It has been decided that no "active principle" exists; if so it has not yet been isolated. The fluid extract is most used and is the most eligible preparation for hypodermatic use.

Physiological Action: In small doses it does not produce sensible physiological effects, but in large doses it produces

symptoms referable to the gastro-intestinal canal and cerebro-spinal axis. It is of a bitter taste and excites more or less heat and dryness of the throat followed by thirst, pain in the stomach, vomiting, intestinal pain and in some cases purging. Patches of inflammatory redness may be found in the stomach and intestines after death due to the local irritant effect of the drug.

The active constituents of ergot rapidly diffuse into the blood, what changes are caused by it in the composition of the blood

are at present unknown, however very characteristic effects are produced in the circulatory system: The action of the heart becomes slower, probably on account of its action on the peripheral filiments of the pneumogastric and an enormous rise takes place in the blood pressure, which is due to its action on the vaso motor nervous system by irritating the constrictor nerves brinig ing about a contraction of the arterioles dilatation of the pupil is another evidence of this action.
Ergot acts on the unstriped

muscular fibres of the blood-vessels which causes them to contract. The action on the unstriped muscular fibre is further shown in the contraction of the parturient womb. By the administration of large medicinal or toxic doses we produce symptoms known as "acute ergotism", and by long continued use of the drug the symptoms of "chronic Ergotism" are produced, which exists in two forms, the convulsive and gangrenous. the chronic form is generally due to the consumption of bread containing a grain-

tity of ergot, generally the convulsive form begins with vertigo, disorders of vision, tinnitus aurium, numbness of the fingers and toes, and afterwards the integument of the body generally. these symptoms are soon followed by tetanic contractions of the fingers and arms pressed strongly against the breast. this also takes place in the lower extremities. the muscles of respiration are tetanically contracted and breathing becomes painful and difficult. attacks occur resembling those of asthma. The uterus in pregnant fe-

males takes on action and
abortion may be the result.
The pulse is small, action of the
heart slow and the surface
cold. the appetite is generally
ravenous. The convulsive and
gangrenous forms of chronic
ergotism are not separated
by any well marked patholog-
ical differences. the gangre-
ous form begins by tingling,
numbness, sense of fatigue in
the members, and an eruption
of vesicles filled with a dark
ichorous fluid appears on the
extremities. and gangrene dry
or moist quickly destroys the part.

The most conspicuous effect of ergot, and that on which its therapeutic application depends, is the marked influence which it exerts over the vascular apparatus. That ergot diminishes the number and alters the character of cardiac pusations is undoubted. The arrest of hearts action is probably due to a stimulation of the Vagus and a consiguent increase of the inhibition, and further its depressing action on the cardiac ganglia. There is no dispute in regard to the contraction of arteries in-

duced by ergot. and an enormous increase in the arterial blood-pressure takes place beyond a doubt: although it is held by some, that the blood-pressure is actually reduced, that the veins are in reality dilated, and a great accumulation of blood takes place in them; while at the same time the arteries contract, not receiving a sufficient amount of blood from the slowly acting heart, but instead of having an active contraction, they are rather in a state of collapse, the result of the

difficient supply it bing accumulated in the dilated vein. This is indeed a plausible theory if we admit that it weakens the contractions of the heart, but that is not its action. while it diminishes the number of beats, it greatly increases the force, and causes it to send out more blood than otherwise, taking this into consideration with its action on the vaso motor nerves constriction of the arterioles takes place causing great general resistance, and immense blood pressure must of necessity take place in the large

arteries.
The action of ergot is not limited to the vascular apparatus. The anaemia of the small arteries which it induces serves to explain the cerebral effects which follow its free use. But besides these the functions of the spinal cord and peripheral nerves undergo changes Ergot given in large doses long continued induces paralysis beginning in the extremities and if the action continues it finally paralyses the cardiac and respiratory centers. The depression of the motor

and reflex functions are explained by the arterial anaemia. Ergot has a very peculiar action on the muscular fibers of the uterus. There are several theories by which this action has been explained. I should think its action on the uterus was similar to that elsewhere. by contracting the large vessels and sending a great quantity of blood out.

Therapeutic uses. There is no doubt but what this drug enjoys a more extensive application in obstetric practice

than any other, and while it is of great value in some cases there is no doubt of its being often abused, and a universal use of it in obstetric cases ought by all means to be condemned. An ordinary midwife can give ergot, but it requires the judgment of an intelligent and skilled physician to determine when to give it.

Some authors say it should be given when there is uterine inertia, the first stage being completed and no obstacle existing at the out-let if it be given before dilatation is completed

the perineum resisting or the os magnum not relaxed, disastrous results are likely to ensue. the dangers attending its use in some cases are so great that some of our most eminent practitioners have entirely abandoned its use in obstetrical cases. but it is surely unjust to sacrifice such a valuable remedy simply because its results are not satisfactory in ~~some~~ some instances.

The proper time to give it, and the time when it is most urgently called for is after the

completion of the "third stage of labor" especially when there is a tendency to have hamorrhage, then a full dose should be administered at once, by the mouth or hypodermatically.

The only disease of the intestinal canal in which ergot may be used are chronic diarrhoea and dysentery, it is best adapted to those cases which have been preceded by the acute form, and is not so useful in cases of warm climates where it has developed slowly without the acute symptoms.

Ergot alone, or in combination with nux vomica will often arrest the obstinate bleeding of haemorrhoids and cause such a contraction of the vessels in cases of not long standing that the symptoms may utterly disappear. especially is this remedy good in the case of women after delivery. It is a useful remedy in cases of enlarged heart with dilated cavities without valvular lesions it is best to give it with digitalis in this case There is no doubt as to the value of ergot in aneurisms. especially

in internal aneurisms beyond the reach of the surgeon. In these cases the method of its action is as follows, it causes contraction of the arterioles and such a degree of blood pressure coagulation in the aneurismal sac is greatly promoted. In small aneurisms of the peripheral main arterial trunks it may effect a cure by direct contraction of the unstriped muscular fibers of the affected portion of the vessel with this rest should always be enjoined in the recumbent posture. It is well adapted for

nearly all forms of hamorrhage and is especially serviceable in the hamorrhagic diathesis, should always be used when there is a want of tonicity in the vessels.

In cerebro spinal meningitis & acute myelitis this drug often does great good by relieving the great congestion.

Ergot is now pretty generally used in diabetes and a number of cases have been cured. but in order to get good results the remedy must be perseveringly used in full doses up to the capacity of the stomach. or a manifestation

of its physiological action.

A Thesis
on
Typhoid Fever
by

E. G. Moore of North Carolina.

Class of 1883.

University of Maryland

Typhoid Fever.

This like most diseases has been subjected to the researches of many theorists and investigators, each differing perhaps as widely in opinion as in research. There can be no doubt that much good has been accomplished by such researches, but this yet an unsettled question and we are for the most part, still unacquainted with the specificity of the disease and treatment.

The name Typhoid was introduced by Louis, whose clinical researches have

been of great value and whose knowledge of the disease seems to have been the result of a careful analysis and study of many recorded cases.

Other names have been suggested, but perhaps none will supplant the one by which it has been so long known and which is so universally adopted. The Germans suggested Abdominal or Ileo Typhus, Murchison Pythogenic fever, and Von Hood Enteric or Enteric Mesenteric fever - some preferring the latter as a more

scientific name —

"Typhoid Fever is a continued fever characterized by the presence of rose colored spots chiefly on the abdomen, accompanied with diarrhoea and specific lesion of the small intestines and mesenteric glands" —

This is not a new disease but has existed all the while and prevails almost everywhere, being endemic in every quarter of the globe. No condition in life seems to protect a man from this disease; the strong and robust as well as weak and debilitated suffer from

ils attacks and both sexes are equally susceptible to it. Age however exerts some predisposing influence, most patients are attacked between the ages of 15 and 30 years. Almost any disease may enter as a complication of Typhoid fever, but the fact of the existence of a previous disease exerts no predisposing influence to an attack. Liebermeister's theory is that the fever is due to miasmatic infection and that the poison is not issued from the body in a potential form.

The accepted theory is that the causative agency is a germ derived from the dejections of a typhoid patient; that these germs become infecting agents and gain access into the system by being present in drinking water or in the atmosphere. Emanations from the bodies of those affected with the disease do not as a rule infect the surrounding atmosphere, hence this is not so frequently a source of the infection as are the stools. Some authorities state that the typhoid germs retain their vitality for at least two years. This disease is rarely

experiencd twice; a person who has had the disease, as a rule, is thereafter unaffected by the special cause. The period of incubation is from two to three weeks.

The characteristic lesions of Typhoid fever are seated in Peyer's patches and the solitary follicles with a corresponding alteration in the mesenteric glands.

In the first week they are inflamed and congested, and in the second week ulceration takes place which is completed in the third. This may be limited to any one or all of the coats of

-the intestine; if perforation takes
place peritonitis is set up and
if -there is a bloodvessel in -the
line of -the ulcer it is involved
and intestinal hemorrhage results.
The swelling in -these glands is
due to an increase in -the lymph-
oid cells. This infiltration may
terminate in resolution or ulcer-
ation; if in resolution -the swell-
ing diminishes and -the cells un-
dergo fatty degeneration and
are absorbed; -they most often
terminate by a slough which
leaves behind -the typhoid ulcer.
Cicatrization is -the next step,
granular tissue springs from

-the floor of -the ulcer and -the cicatrix may present a white appearance or may be pigmented. This process begins in -the -third week, and obstruction in -the lumen of -the intestine rarely occurs. The Spleen is enlarged, softened and dark red in color, due to congestion and hyperplasia of cellular elements. The Liver is swollen, pale and softened: the hepatic cells are in a state of parenchymatous degeneration and -there is an increase in -the lymphoid cells in -the interlobular tissue. The Kidneys are somewhat

similarly affected.
This degeneration is not confined to the liver and kidney but frequently attacks the glands of the stomach and the cardiac muscle, also the voluntary muscles. The Lungs are most always affected during the course of the disease. The bronchial mucus membrane becomes congested and inflamed, hypostatic congestion and pulmonary oedema are frequent. Pneumonia is a frequent complication. The Blood is poor in fibrin and the number of white corpuscles is increased. No changes

have been discovered in the central nervous system to explain the mental disturbance which characterizes the disease. It is thought there is some increase of the cerebro spinal fluid. Lymphoid cells may be found around the ganglion cells of the brain, but they indicate nothing specially since they are found in other conditions—

Typhoid fever as a rule is developed gradually and the prodromic symptoms are generally constant. It may begin with a distinct chill

or with chilly sensations accompanied with bronchitis, sore throat and nausea. Headache, pain in the loins and limbs, diarrhoea, Epistaxis. loss of appetite and mental irritability mark the onset of the disease. General lassitude and weakness continue till the patient takes to bed. if he has kept up till this time. The face is flushed and afterwards presents a dull expression. The temperature rises gradually for the first week, maintains its standard during the second week and then falls rapidly.

As a rule it is even in its course, ascending in the evening, though in some cases fever is high from the beginning. The pulse is accelerated, quick and vibratory and later on becoming feeble and compressible. About the end of the first week rose colored spots make their appearance on the trunk, perhaps on the face but rarely on the limbs; the papules are few in number and about the size of a number four shot, upon pressure they disappear but after awhile reappear. The skin is generally

dry and bedsores appear on parts exposed to pressure. Diarrhoea may be present from the first, if not it generally occurs and is characterized by yellow ochre color. The abdominal symptoms are tympanites, tenderness on pressure and gurgling more marked in the iliac region. Hemorrhage from the bowels may occur, due to ulceration of a vessel lying in the neighborhood of the glands undergoing this process; or peritonitis may be set up due to perforation of the intestine.

The tongue is furred and often covered with a white, yellow, brown or black coating which may be thrown off and leave the tongue red and glazed; sometimes it is hard and dry and even fissured and is often markedly tremulous. As a rule the appetite is wanting, and thirst is prominent at first and continues so until some change in the mental condition takes place. The urine is scanty and high colored; the urea and uric acid are increased and albumen is present.

Cough while not a prominent symptom is generally present, due to a slight bronchitis. Pneumonia is a frequent complication and is to be determined by physical signs.

Delirium is manifested in the majority of cases about the second week, it is always greater at night and may be active, passive or hysterical. It is no evidence of encephalic inflammation. In spection of the delirium, the mental condition in the latter weeks of the disease is characterized by indifference and inanimation.

Some authorities claim that at first the delirium is active, due to congestion, and in the later stage is passive due to protoplasmic starvation. The special senses are impaired especially hearing. Nervous symptoms manifest themselves during the course of the disease, such as carphologia, picking at the bed-clothes and subsultus tendinum.

Coma vigil & typhomania do not involve a tendency to true Coma, but in some cases it is developed in the latter part of the career of the fever and

under these circumstances we may expect a fatal result. The diagnosis of Typhoid fever is to be made by considering the chief symptoms of this disease and the absence of symptoms denoting other affections. The chief points to be noticed are its gradual development, the continuance of the fever, the abdominal symptoms, Epistaxis, rose colored spots, tympanites, tenderness, gurgling and the characteristic diarrhoea &c.

It may be associated with local affections as Pneumonia

Tuberculosis, Enteritis, Bronchitis and Meningitis. The chief point is to make out its own characteristic symptoms. If a fatal termination results it is generally due to some complication. The prognosis is favorable as long as ataxic symptoms are not marked, pulse not very weak or frequent and no serious complication exists; but if these signs are present and convulsions and coma appear it is unfavorable. He could not be positive in giving favorable prognosis

even when convolescence has begun, owing to the liability of hemorrhage or perforation. The treatment of this disease has been variously modified according to the theories held in regard to the disease. Some suggested calomel & iodine and claimed that they were specifics, while others claim to abort the disease by the free use of quinine and opium.
Nathan Smith suggested the expectant treatment which is the plan adopted since no specific has been found. In the treatment of this fever

-the indications are -to keep down -the fever, sustain -the patient and treat -the symptoms as -they arise- It is best at -the beginning -to give a gentle aperient; if -the fever runs high at -the onset without gastritis as a complication use Nitrous Bro- ders, but be careful not con- -tinue -their use -too long- Quinia in large doses has been very efficient in redu- cing -the temperature with good results -to -the patient- Salicylate of soda has been used for -this purpose but it

is exhausting, hence its objection. Alcohol is objectionable for this purpose because it affords only a temporary reduction, the temperature rises as soon as the drug is withdrawn. The diarrhoea is not so troublesome when we keep down the temperature. If the skin is hot and dry use cold or tepid infusions and give Dover's Powders or Opium and Calomel. Give tepid sponges and turpentine stupes for abdominal pain. Turpentine is indicated when the tongue is red and dry;

and if abdomen is tympanitic and tender on pressure give turpentine internally in ten drop doses in glycerine, gum arabic or sugar every two hours. As patient improves give the drug in smaller doses, but it is important not to stop its use too suddenly. If the pulse is very frequent give aconite or veratrum viride, but this may have a tendency to disorder the stomach and it is important that we should preserve the integrity of this organ, for which purpose we give hydrochloric acid

in a little sweetened water-
also give pepsin for the same
purpose- For the diarrhoea give
chalk mixture with Tr opium,
bismuth, acetate of lead, calomel
and opium and ft ext dewberry
root with the Tr of opium- the
diarrhoea should not be checked
too suddenly- Use astringents
such as tannin, kino internally
and apply ice bag to the abdomen
if intestinal hemorrhage occurs-
If peritonitis sets in, hold the
bowels in check by use of
opium and blister the abdomen-
Always attend to the bladder and
prevent bedsores, but if they

occur apply spirit lotions, lead plasters and relieve pressure - Quiet the delirium by use of opium, morphine or chloral, and treat such complications as may arise by proper remedial agents - Small doses of carbolic acid & tincture of aconite in a little whiskey given every few hours have been used with success in lowering the temperature when for some reason quinia or the nitrous powders could not be obtained - In the low forms of the disease and when depression comes on stimulants

such as Huxham's tincture, whis-
key, brandy and wines must
be used; in all protracted
cases of Typhoid fever alcohol
in some form must be used.
There is no specific for
this fever, but we must keep
down the temperature, preserve
digestion, prevent diarrhoea,
use stimulants and guard the
general condition of the patient
The food should be mild
and nutritious; give milk,
beef tea, eggs, wine whey,
decoction of arrow with milk
and raw eggs beat up in brandy
The diet should be supporting.

Ventilation is an important element in the treatment of the disease; and we should look after all matters which would add to the comfort of the patient. Convalescence is slow, and as a rule during this period the patient has an exaggerated appetite which we must watch, and enjoin upon him the necessity not eat too much and the quality of the food should not be too coarse. As a rule after recovery from an attack of this fever, the patient weighs more than he did

before -the attack, his health seems better, his cheeks rosier, his eyes more sparkling, his laugh merrier and after all seems none-the worse for having passed -through his febrile career of illness and prostration-

Finis-

Respectfully Submitted
to the
Hon. Severn Teackle Wallis, Provost,
and the
Faculty of Physic
of the
University of Maryland
at the close of its
Seventy-Fifth Annual Session
1882 - 1883
By
James F. Newman
North Carolina

Acute and Chronic Nephritis

The presence of structural disease in the kidneys, involving both organs uniformly, is almost invariably attended with one important consequence, viz:- the prevention, in a greater or less degree, of the elimination of urea, uric acid and other products of the retrograde metamorphosis of nitrogenous matters, and their consequent retention in the blood and in the fluids which bathe the tissues.

Following upon this retention, and the constant loss of albumen which commonly attends diseases of the kidneys; the blood deteriorates; it grows watery, poor in albumen and corpuscles with a relatively increased amount of fibrin.

This condition of affairs ushers in some or all of those morbid conditions which characterize anaemia.

But in addition to these phenomena others of quasi gravity, special to renal disease, sooner or later su

perverse. Important among these may be enumerated Hypertrophy of Heart, Thickening and Contraction of Small Blood-vessels, Dropsical Effusions, Functional Disorders of Digestive System, Inflammation of other organs, mainly those of the thorax, and above all those of the central nervous system.

Hypertrophy of Heart is recognized as one of the most obvious attendants upon chronic inflammation of the kidneys. (Hypertrophy

independent of valvular affections (not alluded to.)
The Hypertrophy is general involving the whole of the muscular structure of the organ, associated with more or less dilatation.

As this condition seems to be dependent on muscular overgrowth, stimulated by some obstacle to the blood flow which the heart is called upon to overcome; and as we have just seen that the valves and larger arteries are not at fault, and that it is obvious

that the veins take no part, there is only one source from which this obstruction can come, viz:- the small arteries and capillaries.

Here we find in the kidney, as well as the small arteries and capillaries through out the entire body a contraction and narrowing of their channels, due, unlike the changes which the heart undergoes, that of muscular hypertrophy, but to a kind of fibroid conversion not entirely unlike the cirrhotic changes of the Liver.

What produces the anasarca and other [illegible] effusions almost invariably associated with Kidney diseases?

As there is no obstruction to the return of venous blood to produce a venous hyperaemia, nor is there any obvious impediment to the proper performance of the functions of the lymphatic vessels, it must be that there is some peculiar tendency on the part of the serum of the blood to transude through the capillaries, (perhaps this is increased by the fact that

the blood is already in a
state of deterioration) or that
it is made to sweat through
their walls by the increased
pressure which the blood
within them exerts.
This seems to be at present
masked in obscurity, but
perhaps the above explana-
tion may be accepted as
a plausible one.
The grave symptoms repr-
able to the Central nervous
System are those induced
by the subsequent anaemia
produced by improper
blood supply to the

brain substance, and the influence of the retained metamorphosed nitrogenous materials.

These may be preceded by some of the less grave phenomena, such as headache, drowsiness, irritability, hypochondriasis &c, but sooner or later coma and convulsions supervene. The convulsions occur in paroxysms which simulate those of epilepsy; associated with coma they may succeed each other at short intervals until death

ensues.

That we may understand why the above marked phenomena present themselves, we must look to the Pathology of the structural change produced by inflammation of the renal organs.

For description we may comprise the different inflammatory process in the terms "Suppurative", "Tubal" and "Interstitial Nephritis."

Suppurative Nephritis:- This form of Nephritis is an inflammation of the Kidney tending to the

formation of pus, giving rise to renal abscess. It is acute and results from some infective material transmitted in the blood or from inflammatory conditions of the urinary passages. The latter constitutes "Surgical Kidney."

Abscesses in the kidney as the result of pyaemia are principally confined to the cortex. As the emboli which give rise to this condition are washed off from some primary lesion charged with septic matter

they become lodged in the interstitial substance of the kidney. Here they appear as little white bodies, varying in size from a pin head to a pea, surrounded by a zone of red hyperaemic tissue. This gives rise to obstructed circulation in the kidney and ultimate destruction of its substance.

Surgical Kidney:-

This term is given to a form of parallel inflammation resulting from urinary pressure and inflammation

epithelium and in other obliterated or nested; the pyramidal portion is gradually absorbed and finally the kidney becomes converted into a cyst.

But if the obstruction be removed in time the inflammation and absorption may be arrested and the indurated kidney will then become contracted.

Tubal or Parenchymatous Nephritis:

This form of renal inflammation is characterized by scanty and highly albuminous urine and dropsy; consti-

teeling the more acute form of Sheaf's Disease.

In the more acute forms caused by exposure to cold, the contraction of the cutaneous vessels and the function of the skin being checked by the chilling of the surface, causes a marked hyperaemia of the organs. This gives rise to exudation into the urine-tubes; the capillaries may allow the escape of liquor sanguinis and blood-corpuscles into the tubes of the cortex by their rupture and produce

portant changes are those in the tubular epithelium. It becomes swollen and granular, producing a condition known as "cloudy swelling". The tubes become distended by cellular elements which have escaped from the vessels, they also contain hyaline cylinders consisting of escaped substances from the vessels which have coagulated in the tubes.

The termination of this condition varies; the vascularity and epithelial

change may subside and
the organ [illegible] to nearly
its normal condition; and
again the inflammation
may diminish and the
epithelial change still con-
tinue until it has entirely
undergone retrogression and
[illegible] [illegible] with
the urine as a product of
fatty degeneration.

This fatty degeneration
was gradually close and
the already degenerated
cells carried away with the
urine and the organ re-
turn to nearly its normal

in the tubular epithelium.
The first change appears to consist of cellular infiltration into the connective tissue. As the infiltration continues the organ enlarges and becomes granular, gradually the tubular structure atrophy from the pressure and contraction of the new intertubular growth; in many parts they become obliterated or filled with degenerated epithelium; the Malpighian bodies become approximated and the secreting structure in large tracts of the Kidney

become destroyed. The small arteries also undergo important changes. This condition may continue until cysts form on the whole of the kidney undergo calcification.

Treatment:— In the treatment of nephritis there can not be laid down any routine treatment. We must first consider the forms which are incurable and direct our attention to meeting symptoms as they arise and sustaining the general health as much as possible. When the kidneys become unable

[illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [illegible] [illegible]
[illegible] [

the lumbar region by means of dry cupping &c may be of great service. When anasarca supervenes, hyperagogue cathartics should be all unistered and tapping practised if called for. We should deter our patients against the use of alcohol and animal food and reposure to the vicissitudes of weather. Their clothing should consist of heavy flannels to the skin and comfortable outer clothing in the winter season.

By strict attention to the general health we may at least hope to prolong life if not effectuate cure,

Thesis
on
Scarlatina
by
Chas. L. Pearson.

University of Maryland,
Baltimore, Md.
Feb. 12th 1883.

Scarlet Fever.

This is an exanthematous fever, called so from the color of the emption. This disease is remarkable for the wide diversity which it presents in different cases, as regards symptoms and severity. In its mildest form it is a trivial affection, but in its severest form there are few diseases which are more malignant. The disease is divided into three varieties based on differences in symptoms and intensity. These are. Scarlatina Simplex, Scarlatina Anginosa and Scarlatina Maligna. These are not distinct diseases, but differ widely in respect to grav-

ly and distinctive characteristics.

Anatomical Characters:

I will first endeavor to speak of the anatomical characters. The principal of these are the eruptions on the surface and morbid appearance in the throat. Other lesions however may be found after death, which are due to complications. Post Mortem examinations have revealed the frequent occurrence of a condition of the mucus membrane of the stomach and intestines analogous to that of the external cutaneous surface, and microscopic examination of a number of cases have shown an accumulation of granular and fatty matter in the stomach tubes

and follicles. Fibrous casts and des-
quamated epithelium have been found
in contents of stomach and intestines.
It is thought by some writers that
hyperemia of the kidneys associated ~~as-~~
~~sociated~~ with inflamation of the tubes
belong essentially to the disease. instead
of the complications.

Stage of Invasion.

The disease usually invades with a
chill. Vomiting is frequently an early
symptom. and in some cases diar-
rhoea. The fever is as a rule greater
in this than in other eruptive dis-
eases. Bleeding at the nose is not
uncommon in the early stage.
The fauces are red and turnid. with

or without a sense of soreness
in deglutition. The general symptoms
are pain in head, general prostra-
tion and malaise, but these differ
according to the severity of the dis-
ease. This stage lasts about twenty
four hours, and the characteris-
tic eruption then makes its appear-
ance. The eruption may be delayed
by some complication.

It has been my fortune to witness
three cases of this disease, which
illustrated well the three characteristic
forms. The mildest, or Scarlatina
simplex was in a child of three
years. The second Scarlatina Angi-
nosa in my sister a girl of ten,

and third Scarlatina Maligna I learned by my own experience, having contracted it while attending the other two. I had been unwell for some time. My general health having been very much impaired from loss of rest, and from fatigue. I was also surrounded more or less by malarial influence, and my system yielded readily to this poison. During the course of this disease my bowels become very much disturbed and my condition gradually emerged from that of diarrhoea into Bilious dysentery. This condition lasted for nearly two weeks when my disease seemed to assume a new form

which condition was first brought to my notice by a sensation of soreness in my throat, and pain especially on deglutition. Then an increase of febrile movements, a rise of temperature, and pulse increased. This was followed by a slight eruption, which may have existed before but unnoticed. The eruption however was very slight.

In the other two cases mentioned the stage of invasion was somewhat different. In the case of the child of four years with Scarlatina simplex, it continued to run about the house, and the disease was not brought

to the notice of the family until the eruption made its appearance. I was then called in to see the child and found a slight scarlet rash. Upon examining the tongue I found the papillae red and swollen, presenting the characteristic strawberry appearance. The fauces were also swollen and red, but the temperature and pulse were but slightly increased, indicating that the inflamation was mild. Upon examining the child's body I found an irregular eruption, most distinct about the flexures of the thighs and arms. The rash faded upon pressure and return when pressure was removed. On the

following day I found the eruption more marked, and not distributed regularly over the surface. It did not seem to give much annoyance to the little patient who continued to play about the room and did not take to bed. The stage of eruption in the child of two years was much more intense. This patient in the beginning gave manifest signs of delirium. Scarlet patches were distributed over the entire body, which finally coalesced so as to give the appearance of a boiled lobster. This was accompanied with intense burning and pruritus. During the course of the disease the coating on the tongue

was exfoliated, leaving the papillae, which were very red and swollen exposed. The inflamation of the throat was also more intense in this case than the other, the child frequently crying with pain during deglutition. The skin was dry and hot. Pulse from 130 to 140 per minute, while temperature was increased in proportion. During this stage there was also anorexia and vomiting, and frequently delirium. Restlessness was also marked, and frequently when the attendants were absent the child would get up and be found walking about the room. This condition continued for about five days,

when came the stage of

Desquamation.

This stage begins with a decline of the eruption. The cuticle is exfoliated in the form of branny scales, or in pieces of epidermis of greater or less size. Sometimes the epidermis of the hands or feet is detached entire, and may be stripped off like a glove. In cases which pursue a favorable course the febrile movements gradually become lessened at the commencement of this stage, and gradually cease. Albuminuria is more apt to occur in this than in the eruptive stage. So that the presence of al-

burnen in the urine may or may not be indicative of an important renal complication. The duration of this stage is indefinite. It may end in five or six days. Is generally completed in ten or twelve days, but in exceptional cases may last longer.

The foregoing applies to cases which are either mild or not extremely severe, and in which the course of the disease is regular, that is, without complications. Some cases however are characterized by extreme gravity of symptoms at the onset of the disease. The pulse becomes very frequent, the thermom-

the shows notable hyperemia.
In these cases the patient may manifest great restlessness, delirium, coma and occasionally convulsions.
These symptoms denote the severity of the disease. In the true malignant form death may take place before the eruptive stage.
In such cases the gravity is not due to complications, but to an unusual intensity of the morbid conditions which constitute the disease. Disease of the kidney is an important complication in a certain proportion of cases.
As a general thing the urine is highly colored albuminous.

If the quantity of albumen be small, it may not indicate any important affection of the kidneys. On the other hand, grave disease of the kidneys may exist without albuminuria. A more certain sign of renal complication is the presence of tube casts with white or red corpuscles in the urine. Clinical facts show that Scarlatina involves a special tendency to renal disease, not only as a sequel but as a concomitant. The girl referred to had albuminuria as a complication, to such an extent that for twelve hours she lay in Uremic con-

vulsions. General dropsy occured during the progress of the disease, as well as delirium and convulsions. Certain cases of severe Scarlatina are characterized by a great amount of throat affection. This is called Scarlatina Anginosa. The tonsils are greatly swollen and covered with a muco purulent pultaceous deposit, deglutition is difficult, and frequently liquids taken into the mouth are returned through the nostrils. This condition was true in my own case, it was with the greatest difficulty that I could swallow liquid food.

I also had as a complication suppurating glands of my neck and throat. The suppuration went on to the extent that surgical measures for relief had to be resorted to. The operations was performed by our honored Prof. of Anatomy J. Edward Michael. So enormously swollen and tumefied were these glands that from the retained pus, septicemia was an imminent danger. Pleuritis, pericarditis and acute Articular Rheumatism are occasional sequellae as well as concomitants of this disease. Chorea and paralysis of the palate

muscle are frequent symptoms. A purulent discharge from the ear may take place, and sometimes there is considerable deafness.

Causation

Scarlet fever is communicated by contagion. The contagion from mild is as efficient as from severe cases. The contagion is contained in emanations from the body. Probably both from the expired breath and the cutaneous exhalations. Hence the atmosphere surrounding the patient is infected, and the contagion may be carried in the clothing of attendants.

The disease occurs most frequently in the third and fourth years of life. The liability diminishes proportionably after the fifth year, and becomes very small after forty. Children under two years and infants at the breast are not susceptable to it. As a rule the disease occurs but once, but exceptions to this rule are not very rare. Secondary and tertiary attacks are rarely fatal.

Diagnosis

In a great majority of cases the disease is easily diagnosed. The short duration of the stage of invasion, and

the intensity of the pyrexia also the appearance of the efflorescence in the throat, previous to the cutaneous eruption, the appearance of the scarlet rash upon the neck and face, the eruptions upon the extremities succeeding by rapid extension, the serrated margins of the patches, and the increase of pyrexia after the appearance of the eruption make up the positive diagnostic features belonging to Scarlet fever as contrasted with Small pox and Measles. Mild cases are liable to be confounded with Roseola. The diagnosis may also be difficult, where the local manifestations

festations are confined to the throat; That is where the cutaneous eruption is wanting. A highly probable diagnosis may be based upon the sudden attack of vomiting, high febrile movements redness of fauces in a subject between three and six years of age and especially during the prevalence of Scarlatina.

Prognosis

There are two diseases which present in different cases varieties as regards gravity than Scarlatina. In malignant cases it is rapidly fatal. The proportion of these cases vary much

much at different times and places. Even from the intensity of the disease, the danger is in the complications which may occur in the mildest case. Prognosis is unfavorable in cases in which the throat affection is unusually severe. It is unfavorable when diphtheria is developed. Great enlargement of the glands of the neck, or if Gangrene of the throat and mouth occur, recovery is exceptional rather than the rule. The presence of albumen or casts in the urine should always excite apprehension, as the danger is proportionate to

the deficiency of urea. When contracted in the puerperal state the prognosis is unfavorable.

Treatment.

Mild cases of scarlatina do not call for any active measures of treatment, but in the more severe forms active treatment is required. There has not yet been discovered any specific which will destroy the germs on which the disease is supposed to depend. At the present time therefore the indications are to be drawn from salacular symptoms, results and complications in individual cases. In mild

cases hygienic treatment alone is required. In addition to free ventilation, cooling drinks, and light nourishment, we should adopt measures to maintain the functions of the skin, in view of the fact that renal complications or sequelae are liable to follow the mildest attacks. If the fever be very high with hot and dry skin, a tepid bath, or sponging the skin with water or vinegar is very good. Wakefulness at night or restlessness may be met by anodynes. Constipation is to be relieved by enemas. Other symptoms may

indicate appropriate palliative treatment. Where the pulse is unusually high, and the heart beats strong and rapidly, it is best to reduce it by putting the patient in cold pack, or by giving antipyretics as Quinine in large doses. After the wet pack is used patient should be wiped dry and put in bed. In malignant cases where we have feebleness of pulse and general prostration we must resort to stimulants. Alcoholics should be given discriminately. In children wine-whay, milk punch and egg nog, are good forms for admin-

during stimulants & nourishment. In cases of Scarletina Anginosa we should address the measures to the affection in the throat. If the child is old enough the throat should be frequently gargled with chlorate of Potassium, hot milk and water, or pieces of ice may be held in the mouth and allowed to melt slowly. For ulcerations in the throat use Carbolic acid, Permanganate of Potassa and Glycerine. When dropsy follows use Diuretics vapor baths &c. and if necessary puncture with fine needle. I neglected to say earlier in

the treatment of the eruption that the skin should guard well with lard, suet, or Glycerine. If the pulse be full and strong leeches or cups may be applied. Sometimes general bloodletting give great relief. In many mant cases don't bleed generally or locally. Mustard foot baths and cold douches to the head. Baths at temperature of the body for ten or fifteen minutes are good. Carbonate of Ammonia, Salt & pepper gargles. Diuretics &c should be used in kidney complications. As time will not permit me to go further I will now bring this imperfect discourse to a close.

The following works have been consulted in the production of this Thesis. Flints Practice of Medicine, Barthalows Practice of Medicine and Notes on Prof. Howards Lectures.

Chas. L. Pearson.

Etiology
of
Locomotor Ataxia
by
Wm. F. Jones
Feb. 12, 1885

Gentlemen,

In selecting the "Etiology of Locomotor Ataxia" I have ventured upon one of those subjects, of human suffering, that the Medical profession, as yet, have not arrived at any satisfactory conclusion,

The pathology of the disease is pretty generally conceded to be a Sclerosis of the posterior columns of the Spinal Cord, but this only of late years has been satisfactorily proven,

Hutton and Monod in

1827 and 1836 respectively, were the first to demonstrate this location of the disease; And Duchenne in 1858-59 called the attention of the profession to it more forcibly than had ever been done before.

Without going more deeply into the pathology of the disease, I will confine myself to the part of it designed for my special attention, Viz.- Causes

The causes of Locomotor Ataxia, like most troubles, have been attributed to all kinds of external influences

as well as to a hereditary transmission, and as the disease seems to be on the increase, there must of necessity be numerous causes,

As time rolls on.

Civilization, likewise, keeps apace, The circumstances surrounding men's lives become more numerous, The dissipation and excitement in the higher walks of life, as well as the exposure and suffering in the lower, equally exert themselves upon the frail human body, which must finally give way if too long subjected

to their influence,

Then can we wonder when we look around us, and see the vast number who suffer from Nervous and hysterical effections. The many results of the abuse of the genital organs, the great exposure and hardships men have to endure in their struggle for life, that great disturbance of the Central Nervous System will take place?

It is evident, as shown by some investigators, that the development of Ataxia

in certain families may
be due to a predisposition
to Nervous disorders. If this
is the case, the Nervous
System will suffer from
certain external influences
which would have no effect
on healthier individuals,
The weak will succumb
to anxiety and overwork,
Dissipation and exposure
will make their misfortune,
and the Nervous System, at
last, will become involved,
Among the external
influences which are in-
jurious to the Nervous

System, Cold is said to be the most important, Rheumatism also is thought to play an active part.

Rosenthal noticed in the "Vienna General Hospital" during a long term of years, that Cold figured most conspicuously in originating the disease, the fact has been especially noticed in those classes of men whose work subjected them to great exposure,

Venereal excesses, Masturbation &c, are said

to exercise an important factor in the etiology of this disease, and while this may be true to a certain extent, still I am inclined to agree with Rosenthal and attribute little importance to any of them, except Syphilis. (As I will endeavor to show below.)

For the extent to which venereal excesses are carried in our large cities, the many discomforts arising therefrom, would be enough, of itself, to fill them with

Ataxies, Masturbation, likewise, would exert its influence, as it is undoubtedly practiced by many.

Still as these vices have a direct bearing upon the Nervous System A too long continued practice of them may finally make themselves manifest in it.

Among some other causes, may be mentioned, great mental anxiety, Low forms of fever, long confinements and frequent lactation, But these I am disposed

to consider minor factors in the etiology, as so many such cases occur without its development, that one is inclined not to attribute much importance to them

In enumerating the causes of Locomotor Ataxia as given above we find them to be trivial in a general sense of the word, and as the disease is one not at all rare, we must look more deeply into its pathology and endeavor to get at the prime

factor, which from limited experience, I am persuaded is Syphilis.

For time immemorial this disease has made itself manifest upon the unfortunate human family. It has appeared in all describable forms, and recognized under many different names.

We know from the history of the disease what great tendencies it has toward proliferation of tissue. How different parts of the body are prevented from

functioning by the fibro-
plastic material it throws
out, How the liver e.g.
in one suffering from
this disease, has its normal
tissue pressed upon by
the development of fibroid
and gummy growths in
the substance of the organ,
thus causing it to assume
all kinds of shapes, and
likewise destroying its
function. Finally these
changes may undergo fatty
or lardaceous degeneration.

Reasoning then from
this standpoint, why can

not the Spinal Cord be the seat of similar changes?

In my opinion it is. During my limited experience as Clinical assistant to the Prof. of Nervous Diseases, I have seen two cases, (whose history I will give below) and both were clearly traced back to the infecting Chancre.

Case No. I C. H. (White) age 41 yrs. Gave history of having had no trouble till 17 yrs of age, at which time he contracted Syphilis. The primary lesion lasting

about one month. The
Secondary Symptoms came
on in due course of time,
but were considered slight
in character, these finally
disappeared and he enjoyed
good health till 7 years
ago when he noticed a
failing in his sight, re-
quiring glasses to read.
One year later he became
hard of hearing on the
right side from which
he suffers till the present
time. About two years later
than this, he noticed a
loss of action in the right,

leg. It began with a feeling of numbness, and this continued to spread upwards up to the time that he came under our observation, when there was great want of coordination, especially in the right leg

He came to us suffering with what he thought was rheumatism, but which was soon upon investigation to be a typical case of Locomotor Ataxia.

Case No. II H. B. (col) age 65 years. Came to us with the following history.

Six years ago last September, he began to suffer with shooting pains in his legs, and three years later, he began to stagger in walking. About the same time his bladder became affected, and he could not retain his water. Knee jerk reflex was absent when we first saw him, and Iritis was present.

He acknowledged having had a sore about five years previous to his present trouble, which from his description and the symptoms

which followed, was undoubtedly Syphilis

In bringing these two cases forward as illustrations of the cases I have undertaken to discuss, I did not go into the history as minutely as I might have done, but sufficient has been shown to substantiate the diagnosis of "Locomotor Ataxia", which could be traced to no other cause than Syphilis. And I have no doubt that every case of Locomotor Ataxia, if closely investigated, could be traced to it, in largest number of cases.

Strabismus

What is commonly understood by the term strabismus is a want of concordinance of the opt. axes. Vulgarly called squint or cross-eyed. It does not mean a paralysis of one of the recti muscles. It means that either can be placed upon an object but the other will not follow it. Not association in action which is involuntary.

Convergent squint or where the eyes or eye turn toward the nose. Most common met with. Divergent or where the eyes turn out from the nose. Just the opposite to the convergent, may also be met with and is second in frequency

majority of cases of convergent squint. Estimates have been made that at least 77 per cent of all the people who are affected with squint are the subject of hyperopia (Donders).

An eye that is hyperopic is not the result or sequellae of any pathological change in the eye ball. but is due to an anatomical defect in which the anterior posterior diameter of the ball is shorter than normal. in consequence of which the focal distance of the lense falls behind the retina instead of falling on its [illegible] at the fovea centralis.

It is not always the highest degrees of hyperopia that are accompanied with convergent squint for it exists in a higher degree in some instances, where there is no deviation. In children it may be latent and not manifest itself until the accommodation has been paralyzed with atropine or some other mycriatic. Due to flexibility of lense.

It can be readily understood how it produces internal squint. "Convergence and ciliary action work together." Prof Chisolm Every eye, in its physiological condition possesses a peculiar power

known as its power of accommodation or in other words, the power of focusing the organ for different distances and for objects of different sizes at given distances. An emmetropic eye, or an eye in which the rays of light are focused upon the layer of rods & cones enables its possessor to observe objects of a given size, under an angle of five minutes at a distance of twenty feet, without any strain on the part of accommodation. This may be demonstrated by paralyzing the accommodation. The test type at twenty feet which appears clear before may be still used

by the unaided eye.

The subject of hyperopia may read the test type at twenty feet with little or no difficulty before suspending the focusing power. This however does not prove the absence of hyperopia as it may be latent and requires the paralysis of the accommodation to render it manifest. When this is done the hyperopic metropic no longer reads his twenty feet or twenty-twentieths with the unaided eye but must have the assistance of a convex lense to bring the focal point upon the retina.

The disease does not manifest

itself in most instances at first or at birth. The parents of the squinting child generally tell the tale that their child was not crossed until it was 4 or 5 years of age, or not till they sent it to school and that the squint was alternate or occasional. When they became advanced in years they became permanent.

Divergent squint the next variety according to frequency, O.S. the direction of eye ball is opposite to that of convergent squint. The anatomical affect is also opposite. Here the eye ball is longer in the antero-posterior diameter than

or both shall be operated on much always depends upon the amount of deviation.

If the deviation be more than 3 degrees it will be necessary to operate on both eyes. Should it be less than 3 degrees the division of the tendon of the internal rectus in fault with free incision.

The section must be made through the tendon of the muscle, not the muscle. The anatomy of the vaults much in this operation. The object in this operation is to place the attachment of the muscle further back so that it cannot have so much power

The father back it is the tes-
pour it has. The cut muscle
sticks again to the bath. The
muscle is prevented from
going too far when cut by
a sheath (capsule of Tenon)
which covers the muscle and
here it would be well to men-
tion that the amount of cor-
rection depends upon the amount
of cutting the capsule.

Instruments needed in
this operation are first a spec-
ulum to keep the lids apart
called a stop speculum. Next
a pair of forceps with broad
surface with teeth at the end

to hold the conjunction; [illegible]
comes next. Many kinds are
used and should be selected
according to fancy and conve-
nience. A hook must be had
to catch the tendon. "A probe
pointed should be used by be-
ginners." (Prof Chisolm).

Operation — The operation can
be done without any anaesthetic
but not often done. Many means
are in the hands of surgeons
to quell pain in all operations.
One that I will mention, that
has all the power of any other
as regards to lessening pain and
almost instantaneous in its

work. Keep the patient long enough under its influence to do this operation and sometimes a few seconds to spare. In most all cases it work like a charm and where all preparation have been made it is almost magical. The average length of anaesthesia is less than two minutes from first inhalation. Shortest times that I have seen was 52 seconds. This is "Bromide of Ethyl" After introducing the speculum a fold of conjunction is nipped up with the forceps two or three lines from the margin of cornea. This

folds is nipped with the sisson parallel with the muscle to be cut. The membrane gapes open widely and discloses the capsule beneath which is treated in like manner. The hook is passed through the opening with the point gliding over the sclerotic and directed downward so as to get below the tendon. It is then hooked up by the hook and brought upward to the opening against the conjunction which is seized by the forceps, is then carried over the point of the hook when the tendon becomes to view. The

be hurt (the second) time which should be disposed of in like manner.